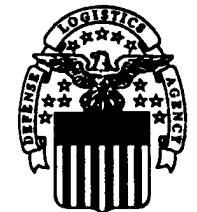# Engineering Data Transfer Test with EDMICS using MIL-R-28002 (Raster)

Laboratory Acceptance Test and User Application Test

December 4, 1991

19960826 078

DTIC QUALITY INSPECTED

Prepared for
Air Force Logistics Command

Prepared by
Lawrence Livermore National Laboratory

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APPENDICES

Abstract

This paper documents the results of a sequence of tests conducted to evaluate the DoD Computer-aided Acquisition and Support (CALS) data interchange capability of the Navy Electronic Data Management Information and Control System (EDMICS).

The CALS initiative specifies a standard digital interface to streamline the interchange of technical data between the DoD and the commercial sector. The CALS Test Network (CTN) is tasked to conduct tests of the military standards which specify this digital interface.

The testing results outlined in this report are intended to evaluate the EDMICS systems ability to support CALS data interchanges and establish the level of technical data interoperability implemented at this DoD engineering data repository.

Executive Summary

This report represents the Laboratory Acceptance Test (LAT) and the User Application Test (UAT) of the Navy Electronic Data Management Information and Control System (EDMICS) to interchange Computer-aided Acquisition and Logistics Support (CALS) raster image data.

CALS Test Network (CTN) LATs are conducted in a development environment and intended as an audit of the vendors solution strategy before committing to a field implementation. The CTN UAT strategy initially targeted production environments, intending to assess the impact of the CALS data interchange process on production applications.

The LAT and UAT activities differ form a Quick Short Test Report (QSTR) in that they are a more formal, in depth, tests oriented to a particular application.

The EDMICS LAT and UAT were similar processes conducted on different systems. In each case, the system being tested was provided CTN raster reference data to exercise functions associated with the interchange of CALS data tapes. After processing the reference data through the system, the CALS data was returned to the CTN for analysis and evaluation.

The CTN had intended the testing process to provide participants with technical feedback between each test sequence. However, due to independent schedules and inter-service priority issues, the LAT and UAT chronology adopted by the three service repositories has preempted this strategy.

Basically, the test scenario provides raster reference data in a MIL-STD-1840A tape format and is intended to include the following activities:

1. A CALS tape is read into a test system.
2. CALS images are processed into a native format.
3. The import data items are subjected to a QA process.
4. Each image is converted into a bit-map.
5. Bit-maps are annotated (red-lined) by the system.
6. Each bit-map is converted back to MIL-R-28002 format.
7. All images are written to MIL-STD-1840A tape.
8. CTN analyzes tape for CALS compatibility.

These procedures are collectively referred to as the CTN Loop-through Test. Iterations of some portions of the sequence may be required to clarify results or to accommodate and verify system adjustments. Such iterations are identified as Follow-on Tests.

During each Loop-through Test a single-tape volume and a multiple-tape volume data set was successfully read by the CALS import utility on the EDMICS system being tested.

The image files read from the CTN reference data tapes were processed, displayed and submitted for Quality Assurance (QA) during each test. EDMICS systems applied a QA strategy to both the procedural content (Hollerith card data) and image encoding structures (Group-4 encoding) of each data file interchanged.

The Group-4 encoding anomaly, introduced by the CTN for test purposes, was quickly uncovered by the QA utility. The QA viewing station also provided visual verification that the EDMICS systems were capable of decoding all the Huffman run-lengths specified by CCITT Recommendation T.6.

During both the LAT and UAT, CTN reference data was successfully read from CALS tape and released for storage onto EDMICS optical media. The data was later retrieved form storage, annotated, written to CALS tape, and shipped back to the CTN for analysis. This process constituted the successful completion of the first half of the CTN Loop-through testing.

The data returned from the LAT and UAT were analyzed by the CALS Test Network Office/Lawrence Livermore National Laboratory (CTNO/LLNL) and Audre, Incorporated. CTN testing targeted magnetic media transfer issues, the MIL-STD-1840A transmission envelope, and the MIL-R-28002 image file content.

Although some variation in media transfer techniques (packaging and labeling) were observed, the data was identified and processed by the CTN. The transmission envelopes (media format and structure) were acceptable to the CTN test bed systems, allowing the data to be read from the tapes and appropriately identified as image and procedural data. All the image files retrieved from the media were successfully displayed on the CTN test bed without anomaly.

The only deviation from the CALS requirements encountered during the analysis, indicated that the EDMICS systems are consistently truncating the last tape block of an image file when the available binary data will not complete a full 2048 byte tape block. The CTN has found this a commonly occurring anomaly among other developing CALS implementations. The anomaly only affects systems that are sensitive to short or variable length tape blocks. However, the EDMICS tape blocking strategy is not strictly in keeping with the published CALS standards which require all tape blocks to be padded out to a full 2048 bytes.

CALS data tapes returned to the CTN from both the Army Digital Storage and Retrieval Engineering Data System (DSREDS) and the Air Force Engineering Data Computer-assist Retrieval System (EDCARS) UAT activities were successfully processed and displayed by the EDMICS system. In principal, this demonstration supported the viability of tri-service data interoperability via CALS media.

Overall, the CTN analysis of the EDMICS data returned from the Loop-through Tests indicated that EDMICS CALS implementation is technically capable of accomplishing CALS MIL-R-28002 Type I digital raster data interchanges with other "CALS ready" systems.

The CTN recommends that the EDMICS systems be adjusted to write all MIL-R-28002 tape blocks to a full 2048 byte length to avoid any possible incompatibility with systems that may be sensitive to short or variable length tape blocks.

1   Introduction

The CTN participated in a sequence of tests, scheduled by the EDMICS Program Office and Contractors, to evaluate the CALS data interchange utilities developed as part of the Navy EDMICS systems. These utilities provide EDMICS with the capability to interchange CALS Type I raster image data. The CTN submitted test material, test procedure, and participated in the test process.

The initial testing was started at the PRC Inc. (contractor) facility. This test is identified in the CTN documentation as the LAT. Further testing was scheduled at a Navy Engineering Data Repository. This test is identified in the CTN documentation as the UAT. Data resulting from the tests were shipped back to the CTN for analysis.

CALS compatibility was tested on two separate EDMICS systems. The PRC development system had all the functional attributes of a production EDMICS system. The Louisville system was implemented as part of a functioning Navy Engineering Data Repository. The differences between the two systems were essentially those of network topology.

The basic test scenarios (see Appendix B) were outlined by the CTN and provided to the contractor prior to both tests. A more comprehensive procedures guide titled "CALS Conformance Test" was developed by the contractor and used during the operation.

As outlined in both LAT and UAT Notes (see Appendix C), during each test, the system being tested was tasked to read, QA, process, and write the CTN raster reference data supplied.

1.1   Background

The Department of Defence (DoD) CTN is tasked to conduct tests of the military standard for the Automated Interchange of Technical Information (MIL-STD-1840A) and the companion specifications.

The primary purpose of the CTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the capability and operational suitability of these standards. To this end, testing should represent the systems and applications in use by government and industry.

Comprehensive testing of Sub-systems and/or fully integrated Applications, is intended to evaluate the readiness of a system to participate in CALS data interchanges and establish the level of capability at which these interchanges will support data interoperability.

A significant near-term CALS objective is the capability of the DoD engineering data repositories to distribute, receive, and exchange engineering drawing information in a digital form. The interchange of raster image data, in accordance with MIL-STD-1840A, is the first step in meeting this objective.

Both DSREDS and EDCARS are undergoing modifications to provide the capability to accept and distribute image data in a MIL-STD-1840A form. EDMICS, was designed subsequent to the CALS standards and is expected to be "CALS ready" upon implementation.

The CTN has been tasked to draft an overall test plan covering the technical issues associated with the application of MIL-STD-1840A. The CTN shall provide input to the designated office responsible for the preparation and execution of system acceptance testing of the DSREDS, EDCARS, and EDMICS systems. Additionally, the CTN and National Institute of Standards and Technology (NIST) are to provide technical support during the testing process.

Implementing the CALS data interchange strategy between the DoD facilities and commercial vendors is an important step in demonstrating the government's commitment to establishing a standard digital interface.

1.2   Objectives

The objective of the LAT and UAT are to perform Development Level Testing and User Application Testing of EDMICS to evaluate the CALS capability being provided. The successful completion of these test will help assure that one of the major elements in the DoD infrastructure (EDMICS) will be capable of exchanging digital raster data using CALS standards.

The initial LAT was conducted on the contractor's development platform, the intent being to allow the test process the flexibility of accessing all aspects of the CALS conversion process being developed for integration into the EDMICS operation. The UAT was carried out on a production system in an attempt to assess the impact of CALS data interchange operations on the production environment.

As articulated in Appendix B (CTN test procedures), CTN reference data was passed through each system and evaluated for structure and integrity. Additionally, native data resident on the UAT systems would be transferred back to the CTN Test Bed for evaluation.

Analysis of the data returned to the CTN would be used as an indicator of the EDMICS MIL-STD-1840A, MIL-R-28002 raster Type I data interchange capabilities.

2   Testing Outline

2.1   Location

Laboratory Acceptance Testing was conducted at the PRC development facility in Reston, VA on 16 April 1991. The subsequent User Application Test was conducted at the Naval Ordinance Facility in Louisville, Kentucky on 30 May 1991.

Analysis of the data generated by the LAT and UAT was conducted at the CTNO Raster Test Bed at the Lawrence Livermore National Laboratory and by AUDRE, Incorporated, respectively located in Livermore and San Diego, California (see Appendix A).

Group-4 conformance testing, which demonstrates the systems capability to conform to the published CCITT Recommendation T.6 Group-4 data compression formats, is being conducted by NIST through an independent contractor's facility.

2.2   Test Plans

The CALS Test Network Test plan (24 December 1990) outlines the basic objectives and philosophy of the CTN test strategy. The DSREDS/EDCARS/EDMICS Program Offices have jointly established a Test Team (DEETT) which, under the direction of the CTNO, developed detailed Test Plans for the EDMICS LAT and UAT.

It was anticipated that test plans would continue to evolve up to the time of an actual test. A copy of the test scenario proposed by the CTN for each test is provided in Appendix B.

CTN testing was predicated on earlier Pre-test discussions with members of the EDMICS Program and contractor representatives constituting the DEETT. It is the understanding of the DEETT that the predications stipulated for the LAT also apply to the UAT.

The substantive issues, arising from these discussions indicate that the EDMICS systems were being implemented with the following capabilities:

1. Raster image scan/capture capability.
2. Raster image compression capability.
3. Raster image QA display/edit capability.
4. Image database/storage capability.
5. Image database/retrieval capability.
6. CALS digital data interchange capability.

CTN testing is intended to:

1. Evaluate the CALS data interchange capabilities of both systems being tested.
2. Comment on systems performance and ease of use.
3. Assist the EDMICS Program Management (PM) (if requested) to evaluate the impact on the existing EDCARS system (to the extent resources allow).

The EDMICS Program stipulated that the only issue germane to the current CTN test would be the CALS data interchange functionality. No additional requirements have been placed on the CTN by the EDMICS PM.

3 Test Parameters

3.1 LAT (Laboratory Acceptance Test) Parameters

Dates:

16 April 1991

Location:

PRC Facility, Reston, VA.

Evaluators:

Lawrence Livermore National Laboratory
P.O. Box 808, L-542
Livermore, CA 94550

AUDRE, Inc.
10915 Technology Place
San Diego, CA 9212

LAT Attendance:

Jim Regan	PRC
John Pivonka	PRC
Bill Kipp	PRC
Claudia Sullivan	PRC
Dan Curren	PRC
Fremont Tittle	CTNO/I-net
Melody deJong	CTNO/AUDRE, Inc.
Jack Jeffers	Navy/DTRC
Mike Christie	CTNO/Navy
Nick Mitschkowetz	CTNO/LLNL
Ernie Glauberson	EDMICS PO

Data types:

MIL-R-28002 Type I high contrast binary image data representing CTN test images and selected engineering drawings from various DoD applications.

The data was presented on several MIL-STD-1840A magnetic tapes, in single and multi-volume tape sets.

3.2 UAT (User Application Test) Parameters

Date:

30 May 1991

Location:

Naval Ordinance Facility in Louisville, Kentucky

Evaluators:
 Lawrence Livermore National Laboratory
 P.O. Box 808, L-542
 Livermore, CA 94550

 AUDRE, Inc.
 10915 Technology Place
 San Diego, CA 9212

UAT Attendance:

Jack Jeffers	DTRC	(301)227-1887
Mike Christie	Navy DTRC/CTNO	(301)227-5497
Bill Wallace	DLA-ZIR	(703)274-4210
Melodie DeJong	CTNO/AUDRE, Inc.	(619)451-2260
Al Zielberg	NOSL	(502)364-5625
Dan Curran	PRC	(703)264-5424
Bill Kipp	PRC	(703)620-8651
Fremont Tittle	CTN	(513)257-3085
Ernest Glauberson	NAVSUP	(703)614-9111

Data types:
 MIL-R-28002 Type I high contrast binary image data representing CTN test images and selected engineering drawings from various DoD applications.

 The data was presented on several MIL-STD-1840A magnetic tapes. The data was limited to single-volume tape sets.

4 Testing Summary

4.1 General Observations

Although conducted independently, the LAT and UAT activities shall be summarized and reported in the aggregate.

The EDMICS system is designed as a distributed solution linked via an Ethernet Local Area Network (LAN). The various sub systems on the LAN provide the functionality required by EDMICS applications (scanning, plotting, viewing, retrieval storage, etc.). Central to EDMICS is an optical disk jukebox and a DEC VAX which hosts a relational database that catalogs the digital files stored in the optical archive. Various utilities which use this data are hosted by work stations and other microcomputers residing on the LAN.

The CALS digital data interchange capability has been implemented in a way that allows this process to be conducted on one or more workstations resident on the LAN.

The magnetic tape reading and writing activities required by the current CALS interchange strategy were undertaken on the a DEC VAX system which hosts the optical storage data base. The DEC VMS operating system supplied the ANSI X3.27 magnetic tape handling capability.

The topology of the LAT and UAT systems dictated that the incoming CALS data be read by the VAX Central Processing Unit (CPU), then transferred across the LAN to the work station handling data format conversion and QA. After conversion and acceptance, the data, in a native EDMICS form, was transferred back across the LAN to the VAX which released the images to the optical jukebox for archival storage. Once on optical media, new images are available to the normal EDMICS production activities.

Both LAT and UAT Loop-through activities sent CALS data through the conversion and QA processes for subsequent storage on the optical sub system. In each case the test data was retrieved from storage, selected images were modified via a pixel editor, and then converted back to CALS magnetic tape for later evaluation by the CTN.

The CALS digital data interchange activity undertaken during testing had no perceptible impact on the production applications during the UAT. The CTN reference data was minimal by volume, it is not clear how application activities and CALS data interchange activity would affect each other in a peek load scenario. However, the modularity of the EDMICS networked architecture provides the type of flexibility that would allow EDMICS systems a range of options to minimize loading issues.

During both LAT and UAT, the CTN provided a multiple-tape volume data set which the EDMICS systems successfully imported and regenerated. EDMICS systems are quite flexible in their ability to read and accept foreign data tapes. The CTN provided a range of format variations commonly encountered during our testing, including circumflex accent pad characters in the MIL-R-28002 file header and random variable length data blocks written to tape. EDMICS read them all successfully.

EDMICS correctly decoded and displayed all the CTN images. The QA process located the Group-4 coding anomaly introduced into image D001R013 by the CTN. Additionally, EDMICS decoded and encoded all the required Huffman run-length codes published in CCITT Recommendation T.6.

4.2 LAT Summary, Reston 16 April 1991
(For additional LAT information see LAT Notes Appendix C)

The EDMICS LAT was conducted at the prime contractors (PRC) facility in Reston, Virginia. In attendance were representative from the CTN, the EDMICS Program Office, David Taylor Research Center (DTRC), and PRC development team.

The object of the test was to evaluate the CALS capability being implemented at the contractor laboratory site and determine if it was appropriate to initiate the NIST CCITT Recommendation T.6 Group-4 conformance test.

Testing was conducted in the PRC demonstration room on Sun and VAX hardware. The utilities being tested were the basic capabilities that PRC had developed to fulfill the EDMICS contract requirements with respect to CALS.

The EDMICS Program Office had determined that the scope of the test would be limited to the CALS issues. No other testing would be conducted.

The CTNO/LLNL provided an extra copy of the Raster Test Suite along with the appropriate documentation. The CTN had developed the proposed test scenario and presented it to PRC for comment in an earlier correspondence. For purposes of conducting the test, PRC had developed a detailed test script, using the CTN test scenario as an outline.

The meeting moved to the PRC demonstration room where the PRC test script was distributed and the CTN Reference data was turned over to the PRC development team.

In general terms, the test was a modified version of the CTN Loop-through procedure. The CALS test data was read, converted to the EDMICS format, verified, annotated and converted back the CALS format.

The test process was concluded without any appreciable perturbations. The system was able to retrieve the files from all CTN test tapes, indicating that short tape blocks would not be a problem for EDMICS systems to read.

The conversion process uncovered the anomalous Group-4 encoding introduced into one of the test files, the three Huffman test files were correctly decoded, and all the images were displayed without anomaly. The two-volume tape-read test demonstrated that the system was able to read a multiple-tape volume.

The required images were annotated and written back to CALS formatted magnetic tape. These tapes were to be packaged and mailed to the CTN for further evaluation.

Testing started shortly after 8 AM and proceeded without interruption. At 1 PM all the procedures had been accomplished and testing was concluded.

As a result of the preliminary test results, the Navy proposed a tentative data of 30 May 1991 be set for the User Application Test.

ISSUES:

1. The system did decompress and display all the appropriate images. Although it did not articulate the planted encoding anomaly, the anomaly was detected. On this basis, the CTN agreed to initiate the NIST CCITT Recommendation T.6 Group-4 conformance test.

2.   An anomaly discovered during the test, which caused erroneous data to be inserted at the end of each Declaration file record, was corrected. The correction will be confirmed by the CTN analysis of the returning data.

3.   Suggestions were made to alter the CALS tape writing procedure. Currently, in the event of an operator error entering CALS interchange parameters in the conversion queue, the entire data set must be reprocessed.

4.3   UAT Summary, Louisville 30 May 1991
(For additional LAT information see UAT Notes Appendix C)

The EDMICS PM scheduled the UAT to be undertaken at the Naval Ordinance Station EDMICS facility on the morning of 30 May 1991. The purpose of the test (as defined by the CTN Test Plan) was to evaluate the CALS capabilities on a system in a production environment.

The test script was substantively unchanged from the LAT, with the addition of two extra tapes. Both tapes were returned Loop-through data, one tape originated from the DSREDS UAT while the other originated form the EDCARS UAT. These foreign tapes contained both CTN data and native data from their respective systems.

The foreign data introduced into the test was intended as a precursor to a tri-service test plan being developed by the CTN. The purpose of the pre-test is to identify any major issues, in terms of required Hollerith data and format, that may be encountered in a tri-service data interchange scenario.

ISSUES:

1.   Limited Production Application.

The CALS implementation at this EDMICS system was described by the EDMICS PM representative as being a "Core-system" implementation. The core functionalities, required to deliver link level CALS data interchange, had been implemented. The application oriented user interfaces had not yet been developed. Commensurate with that fact, the CALS test process was conducted by contractor supplied system personnel, as opposed to the EDMICS production operations staff.

2.   Range of CALS data Acceptability.

EDMICS demonstrated the ability to read a variety of CALS tape format variations including short, variable length, tape blocks. The EDMICS capability, as in the LAT, demonstrated a high degree of tolerance to the common CALS format variations. This capability lends itself well to the DoD and commercial environment that are populated with heterogeneous systems, intended to support digital data interchanges.

3.   DSREDS and EDCARS data imported.

As a precursor to a tri-service data repository interchange, data from both the DSREDS and EDCARS systems was provided at the EDMICS UAT. Images from both tapes were successfully imported into EDMICS and displayed.

4.   ANSI X3.27 multiple-tape volume capability.

EDMICS is capable of both reading and writing multiple-tape volume CALS data interchanges.

5 Analysis Parameters

DATES:
>CTNO/LLNL
>Analysis   10 May to 30 September 1991

Tools Used:
>Sun 3/280
>>TAPETOOL   UNIX tape evaluation routine
>>CASLTB.350   UNIX CALS raster utility

>DEC Micro VAX-II
>>TAPETOOL   VMS tape evaluation routine
>>VALIDG4   VMS CCITT Recommendation T.6 Group-4 evaluator

Standards Applied:
>MIL-STD-1840A
>MIL-R-28002A
>CCITT Recommendation T.6
>ANSI X3.27

6 Data Analysis

The data analysis undertaken for this report was conducted on CALS data tapes returned to the CTN from both LAT and UAT activities. The data generated during the tests were written to MIL-STD-1840A magnetic tape. Each CALS tape set was packaged and mailed to the CTNO/LLNL separately, as proposed by the individual test scenarios. The data returned from the EDMICS tests consisted of several reels of magnetic tape and included examples of single and multiple-tape volume data sets. The LAT and UAT instructions required copies of the data be sent to AUDRE, Inc. for an independent evaluation.

6.1   1840A Packaging

The MIL-STD-1840A requirements for media transfer are intended to protect magnetic tapes against the physical liabilities of shipping. Issues pertaining to impact protection, contamination by dirt or moisture, electromagnetic disturbance, and identification are addressed.

Media received from both the LAT and UAT activities arrived in box containers nominally equivalent to the shock requirements specified by ASTM-D-3951.

The accompanying documentation was somewhat less precise than the DoD requirements articulate. No enumeration of the contents was provided in the UAT shipment, nor were there any listings of the Declaration files. Although each tape was labeled, some labels were rather cryptic.

The LAT data was packaged with the appropriate barrier bag but the UAT tapes arrived without this packaging material. Both shipments were appropriately marked as being sensitive to electromagnetic fields.

6.2   1840A Transmission Envelope

The first 40 blocks of each tape were displayed on the CTN MicroVAX (using the DUMP utility) to detect any irregularities in the ANSI X3.27 media format. Additionally, the CTN utility TAPETOOL was used on both VAX and Sun systems to parse the tapes. The files were loaded onto the Sun raster test bed for analysis.

Tape Formats:

The first few blocks of raw tape data were dumped using the DEC/VMS DUMP utility. All the ANSI system identifiers contained "DECFILE11A" indicating the tapes were generated by a computer system utilizing the DEC Files-11 file management strategy.

The tapes were subsequently processed through the CTN automated tape evaluation utility TAPETOOL. The TAPETOOL utility indicated a non-fatal MIL-STD-1840A error existed in most of the image files. The error indicated that the last block in these image files had been truncated to a length less than the required 2048 bytes. The appropriated CCITT Recommendation T.6 Group-4 end-of-file flag was present but no padding had been added.

The tapes were all appropriately labeled with the ANSI tape label "CTNN01".

Declaration Files:

All the required Declaration files were present and appropriately formatted. They were variable length record files padded out to an even 2048 byte tape block.

The procedural data content was somewhat less consistent. Although all files contained the correct image file count, the revision parameters were sometimes correct and sometimes ambiguous. Some files contained information in the "docttl: " record and some were left blank, failing to enter the literal string "NONE" as required.

Image File Format:

All the image files read from the LAT and UAT data were successfully read and displayed by the CTN raster test bed. Neither the DEC or the Sun system have a problem reading the short tape blocks generated by EDMICS at the end of most image files.

Image file headers were all formatted correctly at 2048 bytes, containing ASCII data and space character (" ") padding.

All the pel-count and line-count attributes provided in the header were correct, allowing the CTN test bed to decode the compressed data. However, several headers contained incorrect image orientation attributes.

The procedural data, specified by MIL-STD-1840A as a part of each image file header, is intended to provide the documentation required to identify and place an image in some application context. This type of information was inconsistent through the test data returned to the CTN. Some image sets were well documented with the "notes: " filed used to identify the contents, while other image sets contained only minimal header data omitting even the obligatory "NONE" from the "notes: " field.

Multiple Tape Volumes:

Evaluation of the multiple-tapes returned from the LAT and UAT indicated that EDMICS is capable of both reading and generating multiple-tape volume data sets. The image provided by the CTN, that was split between two tapes, was correctly reconstructed. The multiple-tape set returned to the CTN were correctly constructed, all the images were read and displayed by the CTN.

6.3   28002A Raster Analysis

General Observations:

All the images read from the data returned from the LAT and UAT were decompressed and viewed on the CTNO/LLNL Sun 3/280 raster test bed. No decompression errors were indicated.

Images completing the Loop-through process were annotated with the PRC logo and the date. The annotation indicated that the images had been converted into bit-maps, edited and recompressed before being returned to the CTN.

All the test images returned were in tact. No perceptible aberrations were introduced as a result of the compression/decompression processing.

Visual inspection of the three Huffman test files indicated that EDMICS could decode and encode all the Huffman run-length encodings specified by the tables in CCITT Recommendation T.6.

The native EDMICS images transferred back to the CTN decompressed and displayed without anomaly. All images indicated the correct orientation and indicated they were native data in the header "notes: ". The image quality of the scanned CAD drawings was excellent, showing high contrast and very low background noise (speckling). The image quality of hand lettered specification sheets was not as good, undoubtedly reflecting the condition of the original documents.

Scanning quality was generally commensurate with analogous data, originating from other DoD engineering data repositories.

Specific Observations:

Tapes generated during the DSREDS and EDCARS Loop-through Tests were also provided for input at the EDMICS UAT. This data was successfully imported into EDMICS, passed through QA and displayed for evaluation.

The interchange of these images, some of them annotated CTN reference data and some of them native EDCARS images, illustrates that in principal, the tri-service repository CALS data interchange simply requires dictating procedures. The technical issues are resolved.

Files Selected for Hand Decoding:

Two files were chosen for manual decoding. A native EDMICS file was decoded to establish that EDMICS Group-4 encoding was in fact two-dimensional. One of the returned synthetic files was decoded to determine that the system had in fact decompressed it into a bit-map before returning it to the CTN for evaluation.

6.4   Hand Decoding MIL-R-28002 Files

In order to determine that the system being tested had implemented a two-dimensional encoding scheme, as opposed to a simple one-dimensional RLE strategy, linkage between the encodings on two contiguous scan lines must be demonstrated. A manual decoding of Group-4 data is required. Further Group-4 encoding tests are being run by NIST to authenticate CCITT Recommendation T.6 Group-4 compliance.

6.4.1   File: D001R007 from tape "CTNN01" date stamped "041691"

The following hand encoding of this file indicates the required CCITT Recommendation T.6 Group-4 encoding strategy has been applied, the MIL-R-28002A header data is appropriate and correctly formatted. However, the MIL-STD-1840A file structure is incomplete in the last tape block which is not padded out to a full 2048 bytes.

```
File Header Records:
        srcdocid:               huffman2a.cals
        dstdocid:               huffman2a.cals
        txtfilid:               NONE
        figid:                  NONE
        srcgph:                 NONE
        doccls:                 UNCLASSIFIED
        rtype:                  1
        rorient:                000,270
        rpelcnt:                00128,00128
        rdensty:                0200
        notes:                  CCITT Recommendation T.6 table-2
```

```
File Structure:
        File Size Group-4          256 Bytes
        File Size bit-map         2048 Bytes
        Header size               2048 Bytes
        Record Size                128 Bytes/fixed
        Header padding           "space" characters
        Last block padding       -ERROR- short block, no padding

CCITT Recommendation T.6 Encoding:
Octal-        023252              031072              106277
Binary-       0010011010101010 0011001000111010 1000110010111111
T.6-          001
              Horizontal
                 00110101
                 term-white(1)
                          010
                          term-black(1)
                             1
                             vertical(0)
         ----------- new scan line -------------
                             0 001
                                pass-mode
                                   1
                                   vertical(0)
         ----------- new scan line -------------

Group-4 termination:
Octal-        074300              002000              040000
Binary-       0111100011000000 0000010000000000 0100000000000000
T.6-              000000 0000010000000000 01
                              End-of-Group-4
```

6.4.2   File: D001R004 from tape "CTNN01" date stamped "053191"

The following hand encoding of this file indicates the required CCITT Recommendation T.6 Group-4 encoding strategy has been applied, the MIL-R-28002A header data is appropriate and correctly formatted. However, the MIL-STD-1840A file structure is incomplete in the last tape block which is not padded out to a full 2048 bytes.

```
File Header Records:
srcdocid:    5971711 53711001 B0010101 UKLDTN8 00028 9
dstdocid:    5971711 537
txtfilid:    NONE
figid:       NONE
srcgph:      NONE
doccls:      UNCLASSIFIED
rtype:       1
rorient:     090,270
rpelcnt:     005344,007200
rdensty:     0200
notes:       Native EDMICS image #4
```

```
File Structure:
File Size Group-4         92544 Bytes
File Size bit-map       4809600 Bytes
Header size                2048 Bytes
Record Size                 128 Bytes/fixed
Header padding           "space" characters
Last block padding    -ERROR- short block, no padding


CCITT Recommendation T.6 Encoding:
Octal-        177776             040101            045217
Binary-       1111111111111110 0100000001000001 0100101010001111
T.6-          111111111111111
              -------------- (n) blank scan lines -------------
                             0 01
                             horizontal
                                 00000001000
                                 makeup-(1792)
                                             001  01001
                                             term-white(40)
                                                       010
                                                       term-black(1)
                                                       1
                                                       vertical(0)
              -------------- new   scan lines -------------
                                                       0001
                                                       pass-mode


Group-4 termination:
Octal-        177740             001000            020000
Binary-       1111111111100000 0000001000000000 001000000000000
T.6-                     00000 0000001000000000 001
                             End-of-Group-4 code
```

7 Conclusions and Recommendations

7.1 Test Results

The test results from both LAT and UAT activities indicate that the EDMICS Systems have the capability to interchange digital data with other "CALS ready" systems.

The CTN VAX based and Sun based raster test bed systems were able to read and display all the MIL-R-28002 image files returned for analysis by the EDMICS LAT and UAT participants. Conversely, the LAT and UAT activities demonstrated that EDMICS could read and decompress not only the CALS reference data supplied by the CTN but also CALS data generated by both the DSREDS and EDCARS systems, as a result of their respective UAT Loop-through activities.

The synthetic Huffman test files indicated that EDMICS is capable of reading and producing all the Huffman run-length encodings specified in CCITT Recommendation T.6. Further analysis verified the systems ability to accommodate encoding and decoding of two-dimensional Group-4 data.

Most anomalies uncovered during testing were errors generally relegated to application and procedural issues and had no impact on the data exchange process. The only anomaly of substance produced short tape blocks at the end of most image files. Here the last block of image data was truncated after the CCITT Recommendation T.6 end-of-code flag, instead of being padded out to a full 2048 bytes of data.

7.2 Observations

Implementation Performance:

The EDMICS architecture is comprised of networked Sub-systems, each system providing some capability required by various EDMICS applications. The CALS conversion is handled by a software utility running on a UNIX platform which is part of the EDMICS network topology. The converted data is accepted on that utility and then transferred via Ethernet to the EDMICS database Host (the VAX 6000-310) for release into an optical jukebox storage/subsystem.

The UAT was conducted on a system that was part of a production data repository. Although no performance issues surfaced during the test, it is difficult to predict performance levels during times of peak loading. Performance increases may be gained in this architecture by adding CALS conversion platforms to the network. In the present configuration, the Ethernet band width will be the limiting factor for total data throughput.

Implementation Flexibility:

Both systems require a network utility to transfer data between the Host and the conversion platform. The test systems configuration doubled the network overhead by virtu of the fact that the conversion platform did not have a 9-track tape capability. In this case, CALS tape I/O was undertaken by the EDMICS Host, requiring the network to deliver CALS files to the conversion platform and then deliver converted native files back to the Optical storage device. However, the flexibility of the implementation should allow EDMICS to adjust the systems configuration to optimize throughput.

Procedural Issues:

The implementation of operating procedures is governed by the applications which require a digital data interchange. Since no explicit CALS applications (other than CTN testing) have been identified, the operational requirements and procedural aspects of the test interchange have remained flexible.

With respect to procedural requirements, the CTN test scenarios are somewhat contrived, focusing mainly on link level interchange capability, as opposed to application capability. Procedural attributes such as Hollerith data, file counts, image orientation, notes, and other application parameters were not pressing issues during these tests.

Operational Issues:

Although some of the functions undertaken during the test activities were accomplished through a menu driven interface, in the absence of applications requirements, the functionality provided by the existing interface may still require additional modification to optimize production operations after the application requirements are specified.

A good perspective on the requirements of production digital data interchange functionality may be derived by developing a CALS data interchange scenario to accommodate the OSD mandated Consumable Item Transfer (CIT) to DLA.

7.3 Recommendations

CTN analysis indicates that the EDMICS systems are ready to participate in the applications development of digital raster data interchanges with other "CALS ready" systems.

The CTN recommends that the short tape block anomaly uncovered during testing (a common occurrence in developing CALS systems) should be corrected to allow EDMICS to produce full 2048 byte tape blocks at the end of all image files. This will assure that systems which are sensitive to short or variable length tape blocks will be able to receive data from EDMICS.

As previously mentioned, the CTN recommends that the EDMICS program begin participating in the development of the applications requirements targeted at implementing the OSD mandated CIT with DLA.

APPENDIX A

EDMICS PRC User Application Testing Report

Prepared by AUDRE, Inc.

1.0 INTRODUCTION.

AUDRE, Inc. participated in the User Application Testing (UAT) evaluation process as an independent observer with commercial raster experience. The evaluation process consisted of on-site testing and evaluation, and an off-site audit on EDMICS generated data. This data was used to demonstrate EDMICS capability for intersite data interchange, and included native EDMICS, DSREDS, and EDCARS data. The on-site EDMICS UAT occurred on May 30, 1991 at the Louisville, Kentucky Navy Facility. PRC provided systems integration, development, and support services for EDMICS. As a member of the CTN test team, AUDRE, Inc. was tasked to observe the physical testing and to comment on productivity issues. In addition, AUDRE, Inc. was asked to audit the results of the Data Interchange Process. During this audit, five test tapes were evaluated for compliance to MIL-STD-1840A and MIL-R-28002 standards.

2.0 METHODOLOGY

During this audit, all standards, specifications, and other pertinent reference material were collected and organized to create an in-house CALS library. All test plans were studied; standards and specifications were reviewed in detail. In addition, in-house batch software routines for automated data testing and analysis for CALS compliance were built. The results of this audit are discussed as follows.

a.   On-site Testing.
b.   Native MIL-STD-1840A Validation and Verification issues.
c.   Native MIL-R-28002 Validation and Verification issues.
d.   Tape 1 MIL-STD-1840A Validation and Verification issues.
e.   Tape 1 MIL-R-28002 Validation and Verification issues.
f.   Tape 2 MIL-STD-1840A Validation and Verification issues.
g.   Tape 2 MIL-R-28002 Validation and Verification issues.
h.   Tape 3 MIL-STD-1840A Validation and Verification issues.
i.   Tape 3 MIL-R-28002 Validation and Verification issues.
j.   Tape 4 MIL-STD-1840A Validation and Verification issues.
k.   Tape 4 MIL-R-28002 Validation and Verification issues.

The following attachments are made a part of this report:

Attachment 1 - Native EDMICS MIL-STD-1840A Validation Program.
Attachment 2 - Native EDMICS MIL-R-28002 Validation Program.
Attachment 3 - Native EDMICS Visual Analysis of Images.
Attachment 4 - Tape 1 MIL-STD-1840A Validation Program.
Attachment 5 - Tape 1 MIL-R-28002 Validation Program.
Attachment 6 - Tape 1 Visual Analysis of Images.
Attachment 7 - Tape 2 MIL-STD-1840A Validation Program.
Attachment 8 - Tape 2 MIL-R-28002 Validation Program.
Attachment 9 - Tape 2 Visual Analysis of Images.
Attachment 10 - Tape 3 MIL-STD-1840A Validation Program.
Attachment 11 - Tape 3 MIL-R-28002 Validation Program.
Attachment 12 - Tape 3 Visual Analysis of Images.
Attachment 13 - Tape 4 MIL-STD-1840A Validation Program.
Attachment 14 - Tape 4 MIL-R-28002 Validation Program.
Attachment 15 - Tape 4 Visual Analysis of Images.

3.0 ON-SITE TESTING.

Detailed CALS conformance test procedures prepared by PRC and CTN were followed throughout the testing. The testing process was similar to the Laboratory Acceptance Testing (LAT) conducted in Reston, Virginia earlier this year. The testing objective was to ensure that the EDMICS system within a live site could accept EDCARS and DSREDS generated MIL-STD-1840A/MIL-R-28002 data, and generate valid MIL-STD-1840A/MIL-R-28002 data. The test team observed and audited the testing to ensure that (a) CALS data could be imported from the MIL-STD-1840A transmission envelope, (b) the raster data could be accessed and altered within the EDMICS system, and (c) the data could be exported as MIL-STD-1840A data.

3.1 Testing.

The testing environment was identical to that used during the LAT. Several productivity issues were discussed in the LAT report, and although minor in nature they still apply. The most cumbersome issue was the need to access the conversion menu when converting each file from CALS to EDMICS, and from EDMICS to CALS. Resolving these issues will greatly enhance the efficiency of the data interchange process and reduce the burden on the user.

The CTN tape was loaded and mounted from the VAX, and the files were transferred to the Sun workstation for processing. All file headers were printed for further reference. The files were converted from CALS to native EDMICS (tiled raster format) with no further problems. All the images were successfully viewed using Formtek, however, the write tape action was not performed at this time in the interest of expediency.

The multi-volume tape was mounted and read, and the image files were transferred from the VAX to the Sun workstation. All files were translated from CALS to native EDMICS. The flawed image file (#13) was correctly identified. Files 5, 6, 7, and 8 were visually examined for file integrity. The write tape action was not performed at this time.

A MIL-STD-1840A tape generated by the EDCARS system was loaded onto the EDMICS system. All files were read and transferred to the Sun workstation. The first five files were converted from CALS to EDMICS, and visually examined. The EDCARS to EDMICS data interchange was completed successfully.

A MIL-STD-1840A tape generated by the DSREDS system was loaded onto the EDMICS system. All files were read and transferred to the Sun. The first five files were converted from CALS to EDMICS. However, file 3 was not converted successfully and further processing was required to be performed after the UAT.

3.2 Discussion.

The UAT demonstrated that a live EDMICS system is capable of importing CALS data. The CTN, multi-volume, and EDCARS data were successfully imported into EDMICS. All data was converted to native EDMICS format and visually examined. The error encountered when trying to read the DSREDS tape could be due to either a fault in generating the tape, or in importing the data.

As discussed in the LAT report, the user interface could be improved to provide less user involvement in the conversion process. The most significant irritant was the need for entering each file name as it was processed. One of the attractions of the CALS standards is its file naming convention, that is the D00xR00y format. By employing the naming convention, a user interface can be provided to eliminate the need for manually specifying file names. Overall, the system is well thought out and robust.

4.0 MIL-STD-1840A PACKAGING.

The magnetic tapes were packaged individually in padded envelopes. Although paragraph 5.3.1.2 of the specification states that "at least one of its laminants contain aluminum foil," this specification was not met. However, all envelopes were shipped together in an appropriate shipping carton with warning label affixed. No damage to the tapes occurred, and the packaging was considered satisfactory.

Each tape was labelled with a packing slip indicating tape number, MIL-STD-1840A content, date, and recording density. Paragraph 5.3.1 specifies that "A printed listing of the content of the included declaration files shall be on the packing slip or attached to it." This was missing from all tapes.

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5.0 EDMICS NATIVE: MIL-STD-1840A TESTING PROCESS.

The declaration file."D001" was read from the tape and its contents printed. Analysis of the print out verified there were no errors in the file name as specified in paragraph 5.1.1.: Declaration File Name. Further analysis showed that the declaration file complies with paragraph 5.1.1.2 Declaration File Content.

As specified in paragraph 5.1.3 the data file names were checked and found to contain valid file names. The data files were read from the tape and each file verified for compliance with MIL-STD-1840A paragraph 5.1.4.4 Raster Data File Header Records and paragraph 5.2.1.6 Raster Files. Each data file header record was extracted, printed and verified as to proper format and content. Specifically, the data file header records were checked for form only and the actual analysis of the contents of the CCITT data and records 7, 8, 9 and 10 were verified as part of MIL-R-28002 testing. All data files headers were successfully extracted and all records were present in the data file header records. There were no format errors in any of the data file header records.

6.0 EDMICS NATIVE: MIL-R-28002 TESTING PROCESS.

MIL-R-28002 testing includes both automated and visual testing. Attachment 2 contains the log of the automated testing, which includes the checks on records 7, 8, 9 and 10 of the data file headers and especially the CCITT Group 4 encoding. Attachment 3 contains the results of the image analysis.

6.1 EDMICS Native: Automated Testing.

The first step in MIL-R-28002 testing uses automated testing to verify Group 4 data. All raster files on the EDMICS_NATIVE tape contained valid Group 4 data and were converted to bitmaps successfully. Records 7, 8, 9 and 10 were checked for compliance on all files. All files specified raster type I data in record 7 and valid raster type I data was verified on all files. Record 8 was verified in all files as to permissible pel path and line progression values, but were not checked for consistent values in the header and image file. This was scrutinized later during visual testing procedures, see paragraph 6.2 below. Record 9 was examined to ensure that the image width and height contained positive integer values; represented the actual width and height and that it conformed to the recommended values in the standard. The files D001R001, D001R002, D001R003, D001R004, D001R005 and D001R006 did not conform to the recommended values for North American or metric drawing sizes. This however was considered a minor detail and flagged as a warning only. The density found in record 10 was 200 in all the files, and is considered a permissible and correct value.

All automated testing demonstrated valid MIL-R-28002 files.

6.2 EDMICS Native: Visual Testing.

The second step in MIL-R-28002 testing was visual. The correct decoding of Group 4 data was verified visually on all files by looking for data irregularities, such as premature end of file, odd inclusions, etc. Based on this inspection, all files were decoded correctly without error. Verification of correct image orientation values as given in record 8 were checked visually. All six files D001R001, D001R002, D001R003, D001R004, D001R005 and D001R006 were found to have the correct orientations of those specified in the file headers.

A visual quality assurance (QA) check was performed to assess the scan quality of the images. The results of this check, shown in Attachment 3, are provided for informational purposes only and do not impact MIL-R-28002. The files D001R001, D001R002, D001R003 and D001R006 all contain noticeable levels of noise. Excess noise present on an image severely increases valuable storage requirements. A simple extraneous pixel removing routine was run on all drawings to remove random pixels from the raster data. The filter was set to remove most of the noise and yet retain all pertinent information. The above four files were reduced in size by more than fifteen percent. File D001R006 was decreased by over 30 percent; D001R002 and D001R003 decreased by over 25 percent; D001R001 over 15 percent. Attachment 3 lists the percentage decrease of all the drawings.

It was observed that files D001R002, D001R003 and D001R004 contained some text that was illegible or unreadable. Files which contain illegible text are considered to be undesirable in quality and may not be worth keeping in the EDMICS archival system.

One file was noticeably skewed by approximately one and one half degree. It is recommended that the file D001R006 be rescanned to correct the skew.

6.3 Summary of EDMICS Native MIL-R-28002 Compliance.

Automated testing demonstrated that all the files on the tape were valid MIL-R-28002 files. The Group 4 decoding was found to be valid both digitally and visually. In general, files that are of undesirable quality should be rescanned if they are to be archived in the EDMICS system, but this does not affect compliance.

7.0 TAPE 1: MIL-STD-1840A TESTING PROCESS.

The declaration file, "D001" was read from the tape and the contents printed. Analysis of the print out verified there were no errors in the file name as specified in paragraph 5.1.1.1 Declaration File Name. However, the contents of the declaration file contained one error. The document title in Record 15 contained a blank string. If there is not a document title then the record should contain "NONE", otherwise a character string must be present. Because of this error, the contents of the declaration file, fails the validation criteria specified by paragraph 5.1.1.2.

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As specified in paragraph 5.1.3 the data file names were checked and found to contain valid file names. The data files were read from the tape and each file verified for compliance with MIL-STD-1840A paragraph 5.1.4.4 Raster Data File Header Records and paragraph 5.2.1.6 Raster Files. Each data file header record was extracted, printed and verified as to proper format and content. Specifically, the data file header records were checked for form only and the actual analysis of the contents of the CCITT data and records 7, 8, 9 and 10 were verified as part of MIL-R-28002 testing. All data files headers were successfully extracted, however, not all the records were present. Record 11, the "notes" record of each data file contained a blank string. The word "NONE" or a character string should have been entered in that field. There were no other format errors in any of the data file header records.

8.0 TAPE 1: MIL-R-28002 TESTING PROCESS.

MIL-R-28002 testing includes both automated and visual testing. Attachment 5 contains the log of the automated testing which includes the checks on records 7, 8, 9, and 10 of the data file headers and especially the CCITT Group 4 encoding. Attachment 6 contains the results of the image analysis.

8.1 TAPE 1: Automated Testing.

The first step in MIL-R-28002 testing uses automated testing to verify Group 4 data. All raster files on the EDMICS_TAPE1 tape contained valid Group 4 data and were converted to bitmaps successfully.

Records 7, 8, 9 and 10 were checked for compliance on all files. All files specified raster type I data in record 7 and valid raster type I data was verified on all files. Record 8 was verified in all files as to permissible pel path and line progression values, but were not checked for consistent values in the header and image file. This was scrutinized later during visual testing procedures, see paragraph 8.2 below. Record 9 was examined to ensure that the image width and height contained positive integer values; represented the actual width and height and that it conformed to the recommended values in the standard. The files D001R007, D001R008, D001R009, D001R010, D001R011, D001R012, D001R014 and D001R015 did not conform to the recommended values for North American or metric drawing sizes. This however was considered a minor detail and flagged as a warning only. The density found in record 10 was 200 in all the files, and is considered a permissible and correct value.

All automated testing demonstrated valid MIL-R-28002 files.

8.2 TAPE 1: Visual Testing.

The second step in MIL-R-28002 testing was visual. The correct decoding of Group 4 data was verified visually on all files by looking for data irregularities, such as premature end of file, odd inclusions, etc. Based on this inspection, all files were decoded correctly without error.

Verification of correct image orientation values as given in record 8 were checked visually. One file, D001R011, was found to have a different orientation from that specified in the file header. Record 8 of this file was defined as "rorient: 090.270" which specified a pel path of 90 and a line progression of 270. The actual data for D001R011 record 8 should have read "rorient: 000,270" which specifies a pel path of 000 and a line progression of 270. Although the values given in record 8 for this file were permissible values, they did not correspond to the actual data found in the images.

A visual quality assurance (QA) check was performed to assess the scan quality of the images. The results of this check, shown in Attachment 6, are provided for informational purposes only and do not impact MIL-R-28002.

The files D001R002, D001R003, D001R004, D001R005, D001R006, D001R009, D001R011, D001R012 and D001R013 all contain noticeable levels of noise. Excess noise present on an image severely increases valuable storage requirements. A simple extraneous pixel removing routine was run on all drawings to remove random pixels from the raster data. The filter was set to remove most of the noise and yet retain all pertinent information. The above nine files were reduced in size by more than ten percent. Files D001R011, D001R012 and D001R013 were decreased by over 90 percent; D001R002 and D001R005 decreased by over 80 percent; D001R009 over 20 percent; D001R003, D001R004 and D001R006 by over 10 percent. Attachment 6 lists the percentage decrease of all the drawings.

It was observed that files D001R003, D001R005 and D001R006 contained some text that was illegible or unreadable. Files which contain illegible text are considered to be undesirable in quality and may not be worth keeping in the EDMICS archival system.

One file was noticeably skewed in the vertical direction by approximately one degree. It is recommended that the file D001R014 be rescanned to correct the skew.

8.3 Summary of TAPE 1 MIL-R-28002 Compliance.

Automated testing demonstrated that all the files on the tape were valid MIL-R-28002 files with the exception of the incorrect orientation specification for file D001R011. The Group 4 decoding was found to be valid both digitally and visually. In general, files that are of undesirable quality should be rescanned if they are to be archived in the EDMICS system, but this does not affect compliance.

9.0 TAPE 2: MIL-STD-1840A TESTING PROCESS.

The declaration file,"D001" was read from the tape and the contents printed. Analysis of the print out verified there were no errors in the file name as specified in paragraph 5.1.1.1 Declaration File Name. However, the contents of the declaration file contained one error. The document title in Record 15 contained a blank string. If there is not a document title then the

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record should contain "NONE", otherwise a character string must be present. Because of this error, the contents of the declaration file, fails the validation criteria specified by paragraph 5.1.1.2.

As specified in paragraph 5.1.3 the data file names were checked and found to contain valid file names. The data files were read from the tape and each file verified for compliance with MIL-STD-1840A paragraph 5.1.4.4 Raster Data File Header Records and paragraph 5.2.1.6 Raster Files. Each data file header record was extracted, printed and verified as to proper format and content. Specifically, the data file header records were checked for form only and the actual analysis of the contents of the CCITT data and records 7, 8, 9 and 10 were verified as part of MIL-R-28002 testing. All data files headers were successfully extracted, however, not all the records were present. Record 11, the "notes" record of each data file contained a blank string. The word "NONE" or a character string should have been entered in that field. There were no other format errors in any of the data file header records.

10.0 TAPE 2: MIL-R-28002 TESTING PROCESS.

MIL-R-28002 testing includes both automated and visual testing. Attachment 8 contains the log of the automated testing, which includes the checks on records 7, 8, 9 and 10 of the data file headers and especially the CCITT Group 4 encoding. Attachment 9 contains the results of the image analysis.

10.1 TAPE 2: Automated Testing.

The first step in MIL-R-28002 testing uses automated testing to verify Group 4 data. All raster files on the EDMICS_TAPE2 tape contained valid Group 4 data and were converted to bitmaps successfully.

Records 7, 8, 9 and 10 were checked for compliance on all files. All files specified raster type I data in record 7 and valid raster type I data was verified on all files. Record 8 was verified in all files as to permissible pel path and line progression values, but were not checked for consistent values in the header and image file. This was scrutinized later during visual testing procedures, see paragraph 10.2 below. Record 9 was examined to ensure that the image width and height contained positive integer values; represented the actual width and height and that it conformed to the recommended values in the standard. The files D001R006, D001R007, D001R008, D001R009, D001R010, D001R011, D001R012, D001R013, D001R014, D001R015, D001R016, D001R017, D001R018 and D001R020 did not conform to the recommended values for North American or metric drawing sizes. This however was considered a minor detail and flagged as a warning only. The density found in record 10 was 200 in all the files, and is considered a permissible and correct value.

All automated testing demonstrated valid MIL-R-28002 files.

10.2 TAPE 2: Visual Testing.

The second step in MIL-R-28002 testing was visual. The correct decoding of Group 4 data was verified visually on all files by looking for data irregularities, such as premature end of file, odd inclusions, etc. Based on this inspection, all files were decoded correctly without error.

Verification of correct image orientation values as given in record 8 were checked visually. Four files, D001R006, D001R007, D001R008 and D001R016 had their record 8 defined as "rorient: 000,270". Visually it was not clear as to what the orientation should be for these files. The values which were given in record 8 of these four files were permissible values.

A visual quality assurance (QA) check was performed to assess the scan quality of the images. The results of this check, shown in Attachment 9, are provided for informational purposes only and do not impact MIL-R-28002.

The files D001R002, D001R003, D001R004, D001R005 and D001R019 all contain noticeable levels of noise. Excess noise present on an image severely increases valuable storage requirements. A simple extraneous pixel removing routine was run on all drawings to remove random pixels from the raster data. The filter was set to remove most of the noise and yet retain all pertinent information. The above five files were reduced in size by more than ten percent. File D001R019 decreased by over 15 percent; D001R002, D001R003, D001R004 and D001R005 decreased by over 10 percent. Attachment 9 lists the percentage decrease of all the drawings.

It was observed that files D001R002, D001R004 and D001R005 contained some text that was illegible or unreadable. Files which contain illegible text are considered to be undesirable in quality and may not be worth keeping in the EDMICS archival system.

All files inspected did not contain any skewing offsets.

One of the files, D001R016, contained no data. It was a blank image. Results of the visual inspection for this file are inconclusive.

10.3 Summary of TAPE 2: MIL-R-28002 Compliance.

Automated testing demonstrated that all the files on the tape were valid MIL-R-28002 files. The Group 4 decoding was found to be valid both digitally and visually. In general, files that are of undesirable quality should be rescanned if they are to be archived in the EDMICS system, but this does not affect compliance.

11.0 TAPE 3: MIL-STD-1840A TESTING PROCESS.

The declaration file,"D001" was read from the tape and the contents printed. Analysis of the print out verified there were no errors in the file name or content as specified in paragraphs 5.1.1.1 Declaration File and 5.1.1.2 Declaration File Content. As specified in paragraph 5.1.3 the data file names were checked and found to contain valid file names. The data files were read from the tape and each file verified for compliance with MIL-STD-1840A paragraph 5.1.4.4 Raster Data File Header Records and paragraph 5.2.1.6 Raster Files. Each data file header record was extracted, printed and verified as to proper format and content. Specifically, the data file header records were checked for form only and the actual analysis of the contents of the CCITT data and records 7, 8, 9 and 10 were verified as part of MIL-R-28002 testing. All data files headers were successfully extracted, however, not all the records were present. Record 11, the "notes" record of each data file contained a blank string. The word "NONE" or a character string should have been entered in that field. There were no other format errors in any of the data file header records.

12.0 TAPE 3: MIL-R-28002 TESTING PROCESS.

MIL-R-28002 testing includes both automated and visual testing. Attachment 11 contains the log of the automated testing, which includes the checks on records 7, 8, 9 and 10 of the data file headers and especially the CCITT Group 4 encoding. Attachment 12 contains the results of the image analysis.

12.1 TAPE 3: Automated Testing.

The first step in MIL-R-28002 testing uses automated testing to verify Group 4 data. All raster files on the EDMICS_TAPE3 tape contained valid Group 4 data and were converted to bitmaps successfully. Records 7, 8, 9 and 10 were checked for compliance on all files. All files specified raster type I data in record 7 and valid raster type I data was verified on all files. Record 8 was verified in all files as to permissible pel path and line progression values, but were not checked for consistent values in the header and image file. This was scrutinized later during visual testing procedures, see paragraph 12.2 below. Record 9 was examined to ensure that the image width and height contained positive integer values, represented the actual width and height and that it conformed to the recommended values in the standard. The files D001R006, D001R007, D001R008, D001R009, D001R010, D001R011, D001R012, D001R013 and D001R014 did not conform to the recommended values for North American or metric drawing sizes. This however was considered a minor detail and flagged as a warning only. The density found in record 10 was 200 in all the files, and is considered a permissible and correct value.

All automated testing demonstrated valid MIL-R-28002 files.

12.2 TAPE 3: Visual Testing.

The second step in MIL-R-28002 testing was visual. The correct decoding of Group 4 data was verified visually on all files by looking for data irregularities, such as premature end of file, odd inclusions, etc. Based on this inspection, all files were decoded correctly without error.

Verification of correct image orientation values as given in record 8 were checked visually. One file. D001R006, had its record 8 defined as "rorient: 090,270". Visually it was not clear as to what the orientation should be for this file. Another file, D001R013, had its record 8 defined as "rorient: 090,270" which specified a pel path of 90 and a line progression of 270. The actual data for D001R013 record 8 should have read "rorient: 000,270" which specifies a pel path of 000 and a line progression of 270. Although the values given in record 8 of these two files were permissible values, they did not correspond to the actual data found in the images.

A visual quality assurance (QA) check was performed to assess the scan quality of the images. The results of this check, shown in Attachment 12, are provided for informational purposes only and do not impact MIL-R-28002.

The files D001R002, D001R005 and D001R007 all contain noticeable levels of noise. Excess noise present on an image severely increases valuable storage requirements. A simple extraneous pixel removing routine was run on all drawings to remove random pixels from the raster data. The filter was set to remove most of the noise and yet retain all pertinent information. The above three files were reduced in size by more than ten percent. File D001R007 decreased by over 30 percent; D001R002 and D001R005 decreased by over 10 percent. Attachment 12 lists the percentage decrease of all the drawings.

It was observed that files D001R002, D001R004 and D001R005 contained some text that was illegible or unreadable. Files which contain illegible text are considered to be undesirable in quality and may not be worth keeping in the EDMICS archival system.

One file, D001R001, was slightly skewed in the horizontal direction by approximately one half degree.

12.3 Summary of TAPE 3 MIL-R-28002 Compliance.

Automated testing demonstrated that all the files on the tape were valid MIL-R-28002 files. The Group 4 decoding was found to be valid both digitally and visually. In general, files that are of undesirable quality should be rescanned if they are to be archived in the EDMICS system, but this does not affect compliance.

13.0 TAPE 4: MIL-STD-1840A TESTING PROCESS.

The declaration file,"D001" was read from the tape and the contents printed. Analysis of the print out verified there were no errors in the file name as specified in paragraph 5.1.1.1 Declaration File Name. The contents of the declaration file contained no carriage returns. Because of the lack of carriage returns (or some other delimiter), the automatic testing procedures could not be used.

As specified in paragraph 5.1.3 the data file names were checked and found to contain valid file names. The data files were read from the tape and each file verified for compliance with MIL-STD-1840A paragraph 5.1.4.4 Raster Data File Header Records and paragraph 5.2.1.6 Raster Files. Each data file header record was extracted, printed and verified as to proper format and content. Specifically, the data file header records were checked for form only and the actual analysis of the contents of the CCITT data and records 7, 8, 9 and 10 were verified as part of MIL-R-28002 testing. All data file headers were successfully extracted, however, not all the records were present. Record 11, the "notes" record of each data file contained a blank string. The word "NONE" or a character string should have been entered in that field. There were no other format errors in any of the data file header records.

14.0 TAPE 4: MIL-R-28002 TESTING PROCESS.

MIL-R-28002 testing includes both automated and visual testing. Attachment 14 contains the log of the automated testing, which includes the checks on records 7, 8, 9 and 10 of the data file headers and especially the CCITT Group 4 encoding. Attachment 15 contains the results of the image analysis.

14.1 TAPE 4: Automated Testing.

The first step in MIL-R-28002 testing uses automated testing to verify Group 4 data. All raster files on the EDMICS_TAPE4 tape contained valid Group 4 data and were converted to bitmaps successfully.

Records 7, 8, 9 and 10 were checked for compliance on all files. All files specified raster type I data in record 7 and valid raster type I data was verified on all files. Record 8 was verified in all files as to permissible pel path and line progression values, but were not checked for consistent values in the header and image file. This was scrutinized later during visual testing procedures, see paragraph 14.2 below. Record 9 was examined to ensure that the image width and height contained positive integer values, represented the actual width and height and that it conformed to the recommended values in the standard. The files D001R002, D001R003, D001R004, D001R005, D001R006, D001R007, D001R008, D001R010, D001R015, D001R016, D001R017, D001R018, D001R019, D001R020 and D001R021 did not conform to the recommended values for North American or metric drawing sizes. This however was considered

a minor detail and flagged as a warning only. The density found in record 10 was 200 in all the files. and is considered a permissible and correct value.

All automated testing demonstrated valid MIL-R-28002 files.

14.2 TAPE 4: Visual Testing.

The second step in MIL-R-28002 testing was visual. The correct decoding of Group 4 data was verified visually on all files by looking for data irregularities, such as premature end of file, odd inclusions, etc. Based on this inspection, all files were decoded correctly without error.

Verification of correct image orientation values as given in record 8 were checked visually. Four files, D001R004, D001R005, D001R006 and D001R007 were found to have a different orientations from those specified in their file headers. Record 8 of these files were defined as "rorient: 090,270" which specified a pel path of 90 and a line progression of 270. The actual data for record 8 of files D001R004, D001R005 and D001R006 should have read "rorient: 270,270" which specifies a pel path of 270 and a line progression of 270. For D001R007, its record 8 should have read "rorient: 000,270" which specifies a pel path of 0 and a line progression of 270. Four files, D001R015, D001R016, D001R017 and D001R019 had their record 8 defined as "rorient: 090,270". Visually it was not clear as to what the orientation should be for these files. Although the values which were given in record 8 of these eight files were permissible values, they did not correspond to the actual data found in the images.

A visual quality assurance (QA) check was performed to assess the scan quality of the images. The results of this check, shown in Attachment 15, are provided for informational purposes only and do not impact MIL-R-28002.

The files D001R011, D001R012,940XD001R@h3 D001R014 all contain noticeable levels of noise. Excess noise present on an image severely increases valuable storage requirements. A simple extraneous pixel removing routine was run on all drawings to remove random pixels from the raster data. The filter was set to remove most of the noise and yet retain all pertinent information. The above four files were reduced in size by more than ten percent. Attachment 15 lists the percentage decrease of all the drawings.

It was observed that files D001R011, D001R012, D001R013 and D001R014 contained some text that was illegible or unreadable. Files which contain illegible text are considered to be undesirable in quality and may not be worth keeping in the EDMICS archival system.

Two files, D001R020 and D001R021, contained inverted images. The informational bits were 0 (white) and the background bits were 1 (black). Inverted images are not mentioned in the MIL-R-28002 document but are noted in MIL-R-28002A specifications, paragraphs 3.1.2.2 and 6.3.12. So that visual testing might continue, these two images were inverted again to the correct the raster data.

13

14.3 Summary of TAPE 4 MIL-R-28002 Compliance.

Automated testing demonstrated that all the files on the tape were valid MIL-R-28002 files. The Group 4 decoding was found to be valid both digitally and visually. In general, files that are of undesirable quality should be rescanned if they are to be archived in the EDMICS-TAPE4 system, but this does not affect compliance.

15.0 SUMMARY OF COMPLIANCE

There were no major problems in complying with MIL-STD-1840A and MIL-R-28002 standards. However, several issues which are significant were discovered, and these are discussed in this summary for future reference. None of the magnetic tapes had a D001 listing affixed as specified in MIL-STD-1840A paragraph 5.3.1. In addition to being required, this is also a convenient method to determine tape contents. Record 15 of D001 on Tapes 1 and 2 did not contain a valid record 15. The specifications state that if there is no document title then the character string "NONE" must be used. Although minor in nature, this could cause problems on a system that expects this field. Similarly, Record 11 (the notes record) on Tapes 1, 2, 3, and 4 should include the character string "NONE" when there are no notes. The declaration file on Tape 4 contained no carriage returns or new line characters as delimiters. Although MIL-STD-1840A paragraph 5 does not specifically state that a carriage return must be used to separate the records, most applications assume some type of delimiter. This issue should be addressed by the Standards Committee. Because of the lack of delimiters in the file, AUDRE's automated procedures had to be abandoned, and the declaration file rewritten to a more easily understood format.

MIL-R-28002 violations were found. The most common violation was incorrect orientation specification. Tape 1, file D001R011; Tape 3, file D001R013; Tape 4, files D001R004, D001R005, D001R006 and D001R007 contained incorrect orientations. Tape 2 contained a file which was a blank image and it is unclear why this would be included in the data set. However, it does not violate MIL-R-28002, and no error was raised. Tape 4 also contained two files, D001R020 and D001R021, which were inverted (white on black). This is not addressed in MIL-R-28002, but is noted in MIL-R-28002A paragraphs 3.1.2.2 and 6.3.12. Overall scan quality was not impressive, and image processing or rescanning should be considered for many of the files. This was most notable on Tape 1 where files D001R011, D001R012, and D001R013 were decreased in file size by over 90-percent by using erroneous stray pixel removal.

The results of the UAT demonstrated that EDMICS is capable of DSREDS/EDCARS/EDMICS MIL-STD-1840A and MIL-R28002 data interchange.

```
***********************************************************************
*                                                                     *
*                     MIL-STD-1840A VALIDATION                        *
*                                                                     *
*   The program scans and validates the contents of a magnetic        *
*   tape for compliance to the MIL-STD-1840A standard.                *
*                                                                     *
*                                                                     *
***********************************************************************


     *******************************************************
     *                                                     *
     *     SCAN THE MIL-STD-1840A CALS TAPE                *
     *                                                     *
     *******************************************************


----------------------------------------------------------------


     *******************************************************
     *                                                     *
     *   VERIFY SECTION 5.1 File structure for transfer    *
     *                                                     *
     *******************************************************

 Check 6: There is one declaration file, "D001".
 Check 7: There exists at least one data file.
 Check 8: The declaration file, "D001", does precede the data files.

----------------------------------------------------------------


     *******************************************************
     *                                                     *
     *                READ THE DECLARATION FILE            *
     *                                                     *
     *******************************************************

 rwmt -r -f 1 D001 -rf d
     15 records read from tape file #1 into "D001".

----------------------------------------------------------------


     *******************************************************
     *                                                     *
     *      PRINT THE CONTENTS OF THE DECLARATION FILE     *
     *                                                     *
     *******************************************************

catf D001

srcsys: NOSL Louisville, Ky.
srcdocid: MIL-STD-1840A Raster Test Suite
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19910531
dstsys: LLML
dstdocid: MIL-STD-1840A Raster Test Suite (Modified)
dstrelid: NONE
dtetrn: 19910531
dlvacc: NONE
filcnt: R6
ttlcls: Unclassified
doccls: Unclassified
doctyp: CTN Raster Referance Images
docttl: NOSL Native EDMICS Images


----------------------------------------------------------------
```

Attachment 1-1

```
***********************************************************
*                                                         *
* Section 5.1.1.1 Declaration File Name                   *
*                                                         *
***********************************************************
```

Verifying Declaration File Name, "D001"

 Check 13: "D001" is four characters in length.
 Check 14: the first character of "D001" is a "D".
 Check 15: the next three characters in "D001" are ASCII
          numbers between 001 to 999.

```
***********************************************************
*                                                         *
* Section 5.1.1.2 Declaration File Content                *
*                                                         *
***********************************************************
```

Verifying the Contents of the Declaration File, "D001"

Record 1. - Source system (srcsys:).

"srcsys: NOSL Louisville, Ky."

 Check 16: the "srcsys: " record is present.
 Check 17: "NOSL Louisville, Ky." follows the "srcsys: " record.

Record 2. - Source system document identifier (srcdocid:).

"srcdocid: MIL-STD-1840A Raster Test Suite"

 Check 18: the "srcdocid: " record is present.
 Check 19: "MIL-STD-1840A Raster Test Suite" follows the "srcdocid: " record.

Record 3. - Source system related document identifier (srcrelid:).

"srcrelid: NONE"

 Check 20: the "srcrelid: " record is present.
 Check 21: "NONE" follows the "srcrelid: " record.

Record 4. - Highest revision and change level in the document
           (chglvl:).

"chglvl: ORIGINAL"

 Check 22: the "chglvl: " record is present.
 Check 23: the word "ORIGINAL" follows the record. No date was
          given.

Record 5. - Date of issue of the latest change to the document
           (dteisu:).

"dteisu: 19910531"

 Check 24: the "dteisu: " record is present.
 Check 25: the date, 19910531, is provided in YYYYMMDD format.

Record 6. - Destination system (dstsys:).

"dstsys: LLML"

 Check 26: the "dstsys: " record is present.
 Check 27: "LLML" follows the "dstsys: " record.

Record 7. - Destination system document identifier (dstdocid:).

"dstdocid: MIL-STD-1840A Raster Test Suite (Modified)"

Check 28: the "dstdocid: " record is present.
Check 29: "MIL-STD-1840A Raster Test Suite (Modified)" follows the "dstdocid: " record.

Record 8. - Destination system related document identifier
            (dstrelid:).

"dstrelid: NONE"

Check 30: the "dstrelid: " record is present.
Check 31: "NONE" follows the "dstrelid: " record.

Record 9. - Date of transfer (dtetrn:).

"dtetrn: 19910531"

Check 32: the "dtetrn: " record is present.
Check 33: the date, 19910531, is provided in YYYYMMDD format.

Record 10. - Delivery accounting (dlvacc:).

"dlvacc: NONE"

Check 34: the "dlvacc: " record is present.
Check 35: "NONE" follows the "dlvacc: " record.

Record 11. - File count (filcnt:).

"filcnt: R6"

Check 36: the "filcnt: " record is present.
Check 37: the letter "R" immediately follows the record.
Check 38: the file count, 6, follows the "R" with no spaces
          between the count and the character.

Record 12. - Title Security Label (ttlcls:).

"ttlcls: Unclassified"

Check 39: the "ttlcls: " record is present.
Check 40: "Unclassified" follows the "ttlcls: " record.

Record 13. - Document Security Label (doccls:).

"doccls: Unclassified"

Check 41: the "doccls: " record is present.
Check 42: "Unclassified" follows the "doccls: " record.

Record 14. - Document Type (doctyp:).

"doctyp: CTN Raster Referance Images"

Check 43: the "doctyp: " record is present.
Check 44: "CTN Raster Referance Images" follows the "doctyp: " record.

Record 15. - Document Title (docttl:).

"docttl: NOSL Native EDMICS Images"

Check 45: the "docttl: " record is present.
Check 46: "NOSL Native EDMICS Images" follows the "docttl: " record.

```
*********************************************************
*                                                       *
* Section 5.1.3  Data File Name                         *
*                                                       *
*********************************************************
```

Verifying the Names of the 6 data files

"D001R001"
 Check 47: "D001R001" is eight characters long.
 Check 48: the first four characters of "D001R001" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R001" is the letter "R".
 Check 50: the last three characters of "D001R001" are "001",
           a decimal number from "001" to "999".
 Check 51: "D001R001" is the number 1 data file for the document
           and correctly uses "001".

"D001R002"
 Check 47: "D001R002" is eight characters long.
 Check 48: the first four characters of "D001R002" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R002" is the letter "R".
 Check 50: the last three characters of "D001R002" are "002",
           a decimal number from "001" to "999".
 Check 51: "D001R002" is the number 2 data file for the document
           and correctly uses "002".

"D001R003"
 Check 47: "D001R003" is eight characters long.
 Check 48: the first four characters of "D001R003" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R003" is the letter "R".
 Check 50: the last three characters of "D001R003" are "003",
           a decimal number from "001" to "999".
 Check 51: "D001R003" is the number 3 data file for the document
           and correctly uses "003".

"D001R004"
 Check 47: "D001R004" is eight characters long.
 Check 48: the first four characters of "D001R004" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R004" is the letter "R".
 Check 50: the last three characters of "D001R004" are "004",
           a decimal number from "001" to "999".
 Check 51: "D001R004" is the number 4 data file for the document
           and correctly uses "004".

"D001R005"
 Check 47: "D001R005" is eight characters long.
 Check 48: the first four characters of "D001R005" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R005" is the letter "R".
 Check 50: the last three characters of "D001R005" are "005",
           a decimal number from "001" to "999".
 Check 51: "D001R005" is the number 5 data file for the document
           and correctly uses "005".

"D001R006"
 Check 47: "D001R006" is eight characters long.
 Check 48: the first four characters of "D001R006" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R006" is the letter "R".
 Check 50: the last three characters of "D001R006" are "006",
           a decimal number from "001" to "999".
 Check 51: "D001R006" is the number 6 data file for the document
           and correctly uses "006".

Attachment 1-4

```
*******************************************************
*                                                     *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES     *
*                                                     *
*******************************************************

cals2aud D001R001 -h

cals2aud Conversion Program Version 1.0


srcdocid: PL3016038        10001006BB0090101          UKLBTN8  0002
       8  9
dstdocid: PL3016038        100
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003552,003552
rdensty: 0200
notes: Native EDMICS Image #1

cals2aud: normal completion


-----------------------------------------------------------


    *******************************************************
    *                                                     *
    * Section 5.1.4.4 Data file header records.           *
    *                                                     *
    *******************************************************

Verifying the data file header records.

"D001R001"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: PL3016038        10001006BB0090101          UKLBTN8  0002
       8  9"

 Check 56: the "srcdocid: " record is present.
 Check 57: "PL3016038          10001006BB0090101          UKLBTN8  0002
       8  9" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: PL3016038        100"

 Check 58: the "dstdocid: " record is present.
 Check 59: "PL3016038          100" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.
```

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003552,003552"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003552,003552" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes: Native EDMICS Image #1"

 Check 76: the "notes: " record is present.
 Check 77: " Native EDMICS Image #1" follows the "notes:" record.

```
****************************************************************
*                                                              *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES           *
*                                                              *
****************************************************************

cals2aud D001R002 -h

cals2aud Conversion Program Version 1.0

srcdocid: PL3016038          10001007BB0090101          UKLBTN8  0002
      8  9
dstdocid: PL3016038          100
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003552,003552
rdensty: 0200
notes: Native EDMICS Image #2

cals2aud: normal completion

-------------------------------------------------------------

    ************************************************************
    *                                                          *
    * Section 5.1.4.4 Data file header records.                *
    *                                                          *
    ************************************************************

Verifying the data file header records.

"D001R002"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: PL3016038          10001007BB0090101          UKLBTN8  0002
      8  9"

 Check 56: the "srcdocid: " record is present.
 Check 57: "PL3016038          10001007BB0090101          UKLBTN8  0002
      8  9" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: PL3016038          100"

 Check 58: the "dstdocid: " record is present.
 Check 59: "PL3016038          100" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.
```

Attachment 1-7

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003552,003552"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003552,003552" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes: Native EDMICS Image #2"

 Check 76: the "notes: " record is present.
 Check 77: " Native EDMICS Image #2" follows the "notes:" record.

```
**************************************************
*                                                *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES  *
*                                                *
**************************************************
```

cals2aud D001R003 -h

cals2aud Conversion Program Version 1.0

srcdocid: PL3016038   10001009BB0090101   UKLBTN8   0002
       8 9
dstdocid: PL3016038   100
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003552,003552
rdensty: 0200
notes: Native EDMICS Image #3

cals2aud: normal completion

```
    **************************************************
    *                                                *
    * Section 5.1.4.4 Data file header records.       *
    *                                                *
    **************************************************
```

Verifying the data file header records.

"D001R003"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: PL3016038   10001009BB0090101   UKLBTN8   0002
       8 9"

 Check 56: the "srcdocid: " record is present.
 Check 57: "PL3016038   10001009BB0090101   UKLBTN8   0002
       8 9" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: PL3016038   100"

 Check 58: the "dstdocid: " record is present.
 Check 59: "PL3016038   100" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003552,003552"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003552,003552" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes: Native EDMICS Image #3"

 Check 76: the "notes: " record is present.
 Check 77: " Native EDMICS Image #3" follows the "notes:" record.

```
***********************************************************
*                                                         *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES      *
*                                                         *
***********************************************************
```

cals2aud D001R004 -h

cals2aud Conversion Program Version 1.0

srcdocid: 5971711   53711001 B0010101   UKLDTN8   0002
      8 9
dstdocid: 5971711   537
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 005344,007200
rdensty: 0200
notes: Native EDMICS Image #4

cals2aud: normal completion

```
      ***********************************************************
      *                                                         *
      * Section 5.1.4.4 Data file header records.               *
      *                                                         *
      ***********************************************************
```

Verifying the data file header records.

"D001R004"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: 5971711   53711001 B0010101   UKLDTN8   0002
      8 9"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   5971711   53711001 B0010101   UKLDTN8   0002
      8 9" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: 5971711   537"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   5971711   537" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 005344,007200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "005344,007200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes: Native EDMICS Image #4"

 Check 76: the "notes: " record is present.
 Check 77: " Native EDMICS Image #4" follows the "notes:" record.

```
****************************************************
*                                                  *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES *
*                                                  *
****************************************************
```

cals2aud D001R005 -h

cals2aud Conversion Program Version 1.0

srcdocid: 6011521   53711001 A0010101   UKLDTN8   0002
        8
dstdocid: 6011521   537
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 005344,007200
rdensty: 0200
notes: Native EDMICS Image #5

cals2aud: normal completion

```
****************************************************
*                                                  *
*  Section 5.1.4.4 Data file header records.       *
*                                                  *
****************************************************
```

Verifying the data file header records.

"D001R005"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: 6011521   53711001 A0010101   UKLDTN8   0002
        8"

 Check 56: the "srcdocid: " record is present.
 Check 57: " 6011521   53711001 A0010101   UKLDTN8   0002
        8" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: 6011521   537"

 Check 58: the "dstdocid: " record is present.
 Check 59: " 6011521   537" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 005344,007200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "005344,007200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes: Native EDMICS Image #5"

 Check 76: the "notes: " record is present.
 Check 77: " Native EDMICS Image #5" follows the "notes:" record.

```
**********************************************************
*                                                        *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES    *
*                                                        *
**********************************************************
```

cals2aud D001R006 -h

cals2aud Conversion Program Version 1.0

srcdocid: DL5167196   53711008 B01001010028   0007UKLBTN8   0002
     .8
dstdocid: DL5167196   537
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003552,003552
rdensty: 0200
notes: Native EDMICS Image #6

cals2aud: normal completion

```
**********************************************************
*                                                        *
*  Section 5.1.4.4 Data file header records.            *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R006"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: DL5167196   53711008 B01001010028   0007UKLBTN8   0002
     8"

 Check 56: the "srcdocid: " record is present.
 Check 57: "DL5167196   53711008 B01001010028   0007UKLBTN8   0002
        8" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: DL5167196   537"

 Check 58: the "dstdocid: " record is present.
 Check 59: "DL5167196   537" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003552,003552"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003552,003552" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes: Native EDMICS Image #6"

 Check 76: the "notes: " record is present.
 Check 77: " Native EDMICS Image #6" follows the "notes:" record.

Successful Completion of MIL-STD-1840A testing.*

```
*****************************************************************
*                                                               *
*                 MIL-R-28002 VALIDATION                        *
*                                                               *
*   The raster files are tested for adherence to the            *
*   MIL-R-28002 standard as documented in                       *
*           MIL-R-28002, 20 December 1988                       *
*           Military Specification                              *
*           Raster Graphics Representation in Binary Format,    *
*                Requirements For                               *
*                                                               *
*                                                               *
*****************************************************************
```

RASTER FILE : "D001R001"

```
    *********************************************************
    *                                                       *
    * Section 3.2 Verify CCITT Recommendation T.6 Group     *
    *              4 Encoding                                *
    *                                                       *
    *********************************************************
```

Verifying data file content

cals2aud D001R001 D001R001.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    *********************************************************
    *                                                       *
    * Section 3.1.1 Raster data file header records         *
    *                                                       *
    *********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003552,003552"

 Check 5: the dimensions "003552,003552" are two positive numbers.
 Check 6: the actual image width is 3552.
 Check 7: the actual image height is 3552.

"rdensity: 0200"

 Check 8: the raster image density is 200.

                        Attachment 2-1

```
    ******************************************************
    *                                                    *
    * Section 6.3.2 Scanlines for engineering drawings   *
    *                                                    *
    ******************************************************
```

Check 9: WARNING! the width, 3552, does not conform to recommended values.
Check 10: WARNING! the height, 3552, does not conform to recommended values.

RASTER FILE : "D001R002"

```
    ********************************************************
    *                                                      *
    * Section 3.2 Verify CCITT Recommendation T.6 Group    *
    *              4 Encoding                               *
    *                                                      *
    ********************************************************
```

Verifying data file content

cals2aud D001R002 D001R002.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ********************************************************
    *                                                      *
    * Section 3.1.1 Raster data file header records        *
    *                                                      *
    ********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003552,003552"

 Check 5: the dimensions "003552,003552" are two positive numbers.
 Check 6: the actual image width is 3552.
 Check 7: the actual image height is 3552.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*****************************************************
*                                                   *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                   *
*****************************************************
```

Check 9: WARNING! the width, 3552, does not conform to recommended values.
Check 10: WARNING! the height, 3552, does not conform to recommended values.

RASTER FILE : "D001R003"

```
*****************************************************
*                                                   *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                             *
*                                                   *
*****************************************************
```

Verifying data file content

cals2aud D001R003 D001R003.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*****************************************************
*                                                   *
* Section 3.1.1 Raster data file header records     *
*                                                   *
*****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003552,003552"

 Check 5: the dimensions "003552,003552" are two positive numbers.
 Check 6: the actual image width is 3552.
 Check 7: the actual image height is 3552.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                        *
**********************************************************
```

Check 9: WARNING! the width, 3552, does not conform to recommended values.
Check 10: WARNING! the height, 3552, does not conform to recommended values.

RASTER FILE : "D001R004"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                                 *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R004 D001R004.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records     *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 005344,007200"

 Check 5: the dimensions "005344,007200" are two positive numbers.
 Check 6: the actual image width is 5344.
 Check 7: the actual image height is 7200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
*  Section 6.3.2 Scanlines for engineering drawings     *
*                                                       *
*********************************************************
```

Check 9: WARNING! the width, 5344, does not conform to recommended values.
Check 10: WARNING! the height, 7200, does not conform to recommended values.

RASTER FILE : "D001R005"

```
*********************************************************
*                                                       *
*  Section 3.2 Verify CCITT Recommendation T.6 Group    *
*               4 Encoding                               *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R005 D001R005.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
*  Section 3.1.1 Raster data file header records        *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 005344,007200"

 Check 5: the dimensions "005344,007200" are two positive numbers.
 Check 6: the actual image width is 5344.
 Check 7: the actual image height is 7200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

Check 9: WARNING! the width, 5344, does not conform to recommended values.
Check 10: WARNING! the height, 7200, does not conform to recommended values.

RASTER FILE : "D001R006"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*             4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R006 D001R006.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003552,003552"

 Check 5: the dimensions "003552,003552" are two positive numbers.
 Check 6: the actual image width is 3552.
 Check 7: the actual image height is 3552.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
************************************************************
*                                                          *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                          *
************************************************************
```

Check 9: WARNING! the width, 3552, does not conform to recommended values.
Check 10: WARNING! the height, 3552, does not conform to recommended values.

Successful Completion of MIL-R-28002 testing.*

VISUAL ANALYSIS OF IMAGES

*SCALE (SCORE):   0 - 2 = Poor overall scan quality.
                 3 - 5 = Fair overall scan quality.
                 6 - 8 = Satisfactory overall scan quality.
                   9 = Good overall scan quality.
                10 = Excellent overall scan quality.

FILE	SCORE*	NOTES
D001R001	7	Some very light text and lines. Some noise.
D001R002	7	Some very light text and lines. Lots of noise.
D001R003	6	Some very light and unreadable text. Lines not continuous. Lots of noise. Slight skew in vertical direction.
D001R004	9	All text and lines clear and crisp. Slight noise.
D001R005	7	Clear, clean text and lines. Noticeable horizontal and vertical skew. Moderate noise.
D001R006	5	Clean text and lines. Very noisy especially around edges. Very noticeable horizontal and vertical skew.

PERCENTAGE DECREASE OF FILE SIZE
AFTER SPECKLE REMOVAL

FILE	% drop
D001R001	16
D001R002	26
D001R003	26
D001R004	1
D001R005	9
D001R006	33

```
****************************************************************
*                                                              *
*                 MIL-STD-1840A VALIDATION                     *
*                                                              *
*   The program scans and validates the contents of a magnetic *
*   tape for compliance to the MIL-STD-1840A standard.         *
*                                                              *
*                                                              *
****************************************************************


      ********************************************************
      *                                                      *
      *    SCAN THE MIL-STD-1840A CALS TAPE                  *
      *                                                      *
      ********************************************************


--------------------------------------------------------------


      ********************************************************
      *                                                      *
      *   VERIFY SECTION 5.1 File structure for transfer    *
      *                                                      *
      ********************************************************

 Check 6: There is one declaration file, "D001".
 Check 7: There exists at least one data file.
 Check 8: The declaration file, "D001", does precede the data files.

--------------------------------------------------------------


      ********************************************************
      *                                                      *
      *              READ THE DECLARATION FILE               *
      *                                                      *
      ********************************************************

 rwmt -r -f 1 D001 -rf d
      15 records read from tape file #1 into "D001".

--------------------------------------------------------------


      ********************************************************
      *                                                      *
      *       PRINT THE CONTENTS OF THE DECLARATION FILE     *
      *                                                      *
      ********************************************************

catf D001

srcsys: NOSL Louisville, Ky.
srcdocid: MIL-STD-1840A Raster Test Suite
srcrelid: NINE
chglvl: ORIGINAL
dteisu: 19910530
dstsys: LLNL
dstdocid: MIL-STD-1840A Raster Test Suite (Modified)
dstrelid: NONE
dtetrn: 19910530
dlvacc: NONE
filcnt: R15
ttlcls: Unclassified
doccls: Unclassified
doctyp: CTN Raster Reference Images
docttl:

--------------------------------------------------------------
```

```
******************************************************
*                                                    *
*   VERIFY SECTION 5.2.1.3 Declaration File          *
*                                                    *
******************************************************
```

Check 9:   the declaration file, "D001", consists of sequential
           variable length records.
Check 10: the records are all of ANSI type D (variable).
Check 11: the maximum record length is 256 bytes.
Check 12: each block is 2048 bytes.

```
******************************************************
*                                                    *
*  Section 5.1.1.1 Declaration File Name             *
*                                                    *
******************************************************
```

Verifying Declaration File Name, "D001"

Check 13: "D001" is four characters in length.
Check 14: the first character of "D001" is a "D".
Check 15: the next three characters in "D001" are ASCII
           numbers between 001 to 999.

```
******************************************************
*                                                    *
*  Section 5.1.1.2 Declaration File Content          *
*                                                    *
******************************************************
```

Verifying the Contents of the Declaration File, "D001"

Record 1. - Source system (srcsys:).

"srcsys: NOSL Louisville, Ky."

Check 16: the "srcsys: " record is present.
Check 17: "NOSL Louisville, Ky." follows the "srcsys: " record.

Record 2. - Source system document identifier (srcdocid:).

"srcdocid: MIL-STD-1840A Raster Test Suite"

Check 18: the "srcdocid: " record is present.
Check 19: "MIL-STD-1840A Raster Test Suite" follows the "srcdocid: " record.

Record 3. - Source system related document identifier (srcrelid:).

"srcrelid: NINE"

Check 20: the "srcrelid: " record is present.
Check 21: "NINE" follows the "srcrelid: " record.

Record 4. - Highest revision and change level in the document
            (chglvl:).

"chglvl: ORIGINAL"

Check 22: the "chglvl: " record is present.
Check 23: the word "ORIGINAL" follows the record. No date was
           given.

Record 5. - Date of issue of the latest change to the document
         (dteisu:).

"dteisu: 19910530"

 Check 24: the "dteisu: " record is present.
 Check 25: the date, 19910530, is provided in YYYYMMDD format.

Record 6. - Destination system (dstsys:).

"dstsys: LLNL"

 Check 26: the "dstsys: " record is present.
 Check 27: "LLNL" follows the "dstsys: " record.

Record 7. - Destination system document identifier (dstdocid:).

"dstdocid: MIL-STD-1840A Raster Test Suite (Modified)"

 Check 28: the "dstdocid: " record is present.
 Check 29: "MIL-STD-1840A Raster Test Suite (Modified)" follows the "dstdocid:
 " record.

Record 8. - Destination system related document identifier
         (dstrelid:).

"dstrelid: NONE"

 Check 30: the "dstrelid: " record is present.
 Check 31: "NONE" follows the "dstrelid: " record.

Record 9. - Date of transfer (dtetrn:).

"dtetrn: 19910530"

 Check 32: the "dtetrn: " record is present.
 Check 33: the date, 19910530, is provided in YYYYMMDD format.

Record 10. - Delivery accounting (dlvacc:).

"dlvacc: NONE"

 Check 34: the "dlvacc: " record is present.
 Check 35: "NONE" follows the "dlvacc: " record.

Record 11. - File count (filcnt:).

"filcnt: R15"

 Check 36: the "filcnt: " record is present.
 Check 37: the letter "R" immediately follows the record.
 Check 38: the file count, 15, follows the "R" with no spaces
         between the count and the character.

Record 12. - Title Security Label (ttlcls:).

"ttlcls: Unclassified"

 Check 39: the "ttlcls: " record is present.
 Check 40: "Unclassified" follows the "ttlcls: " record.

Record 13. - Document Security Label (doccls:).

"doccls: Unclassified"

 Check 41: the "doccls: " record is present.
 Check 42: "Unclassified" follows the "doccls: " record.

Record 14. - Document Type (doctyp:).

"doctyp: CTN Raster Reference Images"

 Check 43: the "doctyp: " record is present.
 Check 44: "CTN Raster Reference Images" follows the "doctyp: " record.

Record 15. - Document Title (docttl:).

"docttl: "

 Check 45: the "docttl: " record is present.
ERROR! No string follows the "docttl: " record.

        ****
        *   *
        * Section 5.1.3 Data File Name   *
        *   *
        ****

Verifying the Names of the 15 data files

"D001R001"
 Check 47: "D001R001" is eight characters long.
 Check 48: the first four characters of "D001R001" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R001" is the letter "R".
 Check 50: the last three characters of "D001R001" are "001",
           a decimal number from "001" to "999".
 Check 51: "D001R001" is the number 1 data file for the document
           and correctly uses "001".

"D001R002"
 Check 47: "D001R002" is eight characters long.
 Check 48: the first four characters of "D001R002" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R002" is the letter "R".
 Check 50: the last three characters of "D001R002" are "002",
           a decimal number from "001" to "999".
 Check 51: "D001R002" is the number 2 data file for the document
           and correctly uses "002".

"D001R003"
 Check 47: "D001R003" is eight characters long.
 Check 48: the first four characters of "D001R003" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R003" is the letter "R".
 Check 50: the last three characters of "D001R003" are "003",
           a decimal number from "001" to "999".
 Check 51: "D001R003" is the number 3 data file for the document
           and correctly uses "003".

"D001R004"
 Check 47: "D001R004" is eight characters long.
 Check 48: the first four characters of "D001R004" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R004" is the letter "R".
 Check 50: the last three characters of "D001R004" are "004",
           a decimal number from "001" to "999".
 Check 51: "D001R004" is the number 4 data file for the document
           and correctly uses "004".

"D001R005"
Check 47: "D001R005" is eight characters long.
Check 48: the first four characters of "D001R005" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R005" is the letter "R".
Check 50: the last three characters of "D001R005" are "005",
          a decimal number from "001" to "999".
Check 51: "D001R005" is the number 5 data file for the document
          and correctly uses "005".

"D001R006"
Check 47: "D001R006" is eight characters long.
Check 48: the first four characters of "D001R006" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R006" is the letter "R".
Check 50: the last three characters of "D001R006" are "006",
          a decimal number from "001" to "999".
Check 51: "D001R006" is the number 6 data file for the document
          and correctly uses "006".

"D001R007"
Check 47: "D001R007" is eight characters long.
Check 48: the first four characters of "D001R007" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R007" is the letter "R".
Check 50: the last three characters of "D001R007" are "007",
          a decimal number from "001" to "999".
Check 51: "D001R007" is the number 7 data file for the document
          and correctly uses "007".

"D001R008"
Check 47: "D001R008" is eight characters long.
Check 48: the first four characters of "D001R008" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R008" is the letter "R".
Check 50: the last three characters of "D001R008" are "008",
          a decimal number from "001" to "999".
Check 51: "D001R008" is the number 8 data file for the document
          and correctly uses "008".

"D001R009"
Check 47: "D001R009" is eight characters long.
Check 48: the first four characters of "D001R009" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R009" is the letter "R".
Check 50: the last three characters of "D001R009" are "009",
          a decimal number from "001" to "999".
Check 51: "D001R009" is the number 9 data file for the document
          and correctly uses "009".

"D001R010"
Check 47: "D001R010" is eight characters long.
Check 48: the first four characters of "D001R010" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R010" is the letter "R".
Check 50: the last three characters of "D001R010" are "010",
          a decimal number from "001" to "999".
Check 51: "D001R010" is the number 10 data file for the document
          and correctly uses "010".

"D001R011"
Check 47: "D001R011" is eight characters long.
Check 48: the first four characters of "D001R011" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R011" is the letter "R".
Check 50: the last three characters of "D001R011" are "011",
          a decimal number from "001" to "999".
Check 51: "D001R011" is the number 11 data file for the document
          and correctly uses "011".

"D001R012"
 Check 47: "D001R012" is eight characters long.
 Check 48: the first four characters of "D001R012" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R012" is the letter "R".
 Check 50: the last three characters of "D001R012" are "012",
           a decimal number from "001" to "999".
 Check 51: "D001R012" is the number 12 data file for the document
           and correctly uses "012".

"D001R013"
 Check 47: "D001R013" is eight characters long.
 Check 48: the first four characters of "D001R013" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R013" is the letter "R".
 Check 50: the last three characters of "D001R013" are "013",
           a decimal number from "001" to "999".
 Check 51: "D001R013" is the number 13 data file for the document
           and correctly uses "013".

"D001R014"
 Check 47: "D001R014" is eight characters long.
 Check 48: the first four characters of "D001R014" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R014" is the letter "R".
 Check 50: the last three characters of "D001R014" are "014",
           a decimal number from "001" to "999".
 Check 51: "D001R014" is the number 14 data file for the document
           and correctly uses "014".

"D001R015"
 Check 47: "D001R015" is eight characters long.
 Check 48: the first four characters of "D001R015" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R015" is the letter "R".
 Check 50: the last three characters of "D001R015" are "015",
           a decimal number from "001" to "999".
 Check 51: "D001R015" is the number 15 data file for the document
           and correctly uses "015".

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R001 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT1   18876001 000 BX   001 001UDCETN
dstdocid: CT1
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 001728,002200
rdensty: 0200
notes:

cals2aud: normal completion

```
***************************************************
*                                                 *
* Section 5.1.4.4 Data file header records.       *
*                                                 *
***************************************************
```

Verifying the data file header records.

"D001R001"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT1   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT1   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT1"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT1" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 001728,002200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "001728,002200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R001" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R001" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R001", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R002 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST01   82918   00010001UMF HN
      001A
dstdocid: CTNTEST01   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 001728,002200
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
*  Section 5.1.4.4 Data file header records.            *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R002"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST01   82918   00010001UMF HN
        001A"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST01   82918   00010001UMF HN
        001A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST01   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST01   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 001728,002200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "001728,002200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R002" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R002" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R002", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R003 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST02   82918   00010001UMF HN
       002B
dstdocid: CTNTEST02   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002240,003400
rdensty: 0200
notes:

cals2aud: normal completion

```
*************************************************************
*                                                           *
* Section 5.1.4.4 Data file header records.                 *
*                                                           *
*************************************************************
```

Verifying the data file header records.

"D001R003"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST02   82918   00010001UMF HN
        002B"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST02   82918   00010001UMF HN
        002B" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST02   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST02   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002240,003400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002240,003400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R003" are written
           with 128 byte ANSI type F fixed-length records.
·Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R003" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R003", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R004 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST03   82918   00010001UMF HN
      003C
dstdocid: CTNTEST03   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003456,004400
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R004"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST03   82918   00010001UMF HN
        003C"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST03   82918   00010001UMF HN
        003C" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST03   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST03   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003456,004400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003456,004400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R004" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R004" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R004", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R005 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST04   82918   00010001UMF HN
      004D
dstdocid: CTNTEST04   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004416,006800
rdensty: 0200
notes:

cals2aud: normal completion

```
***************************************************
*                                                 *
* Section 5.1.4.4 Data file header records.       *
*                                                 *
***************************************************
```

Verifying the data file header records.

"D001R005"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST04   82918   00010001UMF HN
      004D"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST04   82918   00010001UMF HN
      004D" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST04   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST04   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004416,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004416,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R005" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R005" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R005", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R006 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST05   82918   00010001UMF HN
      005E
dstdocid: CTNTEST05   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
******************************************************
*                                                    *
* Section 5.1.4.4 Data file header records.          *
*                                                    *
******************************************************
```

Verifying the data file header records.

"D001R006"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST05   82918   00010001UMF HN
      005E"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST05   82918   00010001UMF HN
      005E" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST05   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST05   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

     ****
     *   *
     * Section 5.2.1.6 Raster files   *
     *   *
     ****

 Check 52: all the raster file records in "D001R006" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R006" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R006", with the block
           padded to the appropriate size.

     ****
     *   *
     *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
     *   *
     ****

cals2aud D001R007 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST09   82918   00010001UMF HN
     009B
dstdocid: CTNTEST09   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002480,003616
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R007"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST09   82918   00010001UMF HN
        009B"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST09   82918   00010001UMF HN
        009B" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST09   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST09   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002480,003616"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002480,003616" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
    *********************************************************
    *                                                       *
    * Section 5.2.1.6 Raster files                          *
    *                                                       *
    *********************************************************
```

 Check 52: all the raster file records in "D001R007" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R007" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R007", with the block
           padded to the appropriate size.

```
    *********************************************************
    *                                                       *
    *      PRINT THE CONTENTS OF THE DATA HEADER FILES      *
    *                                                       *
    *********************************************************
```

cals2aud D001R008 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST10   82918   00010001UMF HN
       010E
dstdocid: CTNTEST10   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006800,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R008"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST10   82918   00010001UMF HN
       010E"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST10   82918   00010001UMF HN
       010E" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST10   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST10   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006800,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006800,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R008" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R008" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R008", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R009 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST11   82918   00010001UMF HN
        011B
dstdocid: CTNTEST11   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,003312
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R009"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST11   82918   00010001UMF HN
        011B"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST11   82918   00010001UMF·HN
        011B" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST11   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST11   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

                        Attachment 4-23
```

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,003312"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,003312" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

------------------------------------------------------------

        ***********************************************************
        *                                                         *
        * Section 5.2.1.6 Raster files                            *
        *                                                         *
        ***********************************************************

 Check 52: all the raster file records in "D001R009" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R009" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R009", with the block
           padded to the appropriate size.

------------------------------------------------------------

        ***********************************************************
        *                                                         *
        *      PRINT THE CONTENTS OF THE DATA HEADER FILES    *
        *                                                         *
        ***********************************************************

cals2aud D001R010 -h

cals2aud Conversion Program Version 1.0


srcdocid:   CTNTEST12      82918              00010001UMF HN
        012D
dstdocid:   CTNTEST12      829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004848,006800
rdensty: 0200
notes:

cals2aud: normal completion

------------------------------------------------------------

```
****************************************************
*                                                  *
* Section 5.1.4.4 Data file header records.        *
*                                                  *
****************************************************
```

Verifying the data file header records.

"D001R010"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST12   82918   00010001UMF HN
     012D"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST12   82918   00010001UMF HN
     012D" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST12   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST12   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004848,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004848,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R010" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R010" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R010", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R011 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST13   82918   00010001UMF HN
     013A
dstdocid: CTNTEST13   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,001656
rdensty: 0200
notes:

cals2aud: normal completion

```
*******************************************************
*                                                     *
* Section 5.1.4.4 Data file header records.           *
*                                                     *
*******************************************************
```

Verifying the data file header records.

"D001R011"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST13   82918   00010001UMF HN
        013A"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST13   82918   00010001UMF HN
        013A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST13   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST13   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,001656"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,001656" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R011" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R011" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R011", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R012 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST14   82918   00010001UMF HN
     014D
dstdocid: CTNTEST14   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004688,006624
rdensty: 0200
notes:

cals2aud: normal completion

```
*************************************************************
*                                                           *
* Section 5.1.4.4 Data file header records.                 *
*                                                           *
*************************************************************
```

Verifying the data file header records.

"D001R012"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST14   82918   00010001UMF HN
      014D"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST14   82918   00010001UMF HN
       014D" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST14   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST14   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

```

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004688,006624"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004688,006624" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

------------------------------------------------------------

```
    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****
```

 Check 52: all the raster file records in "D001R012" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R012" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R012", with the block
           padded to the appropriate size.

```
    **********************************************************
    *                                                        *
    *      PRINT THE CONTENTS OF THE DATA HEADER FILES       *
    *                                                        *
    **********************************************************
```

cals2aud D001R013 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST15   82918   00010001UMF HN
      015C
dstdocid: CTNTEST15   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003312,004680
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
*  Section 5.1.4.4 Data file header records.             *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"DOO1RO13"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST15   82918   00010001UMF HN
        015C"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST15   82918   00010001UMF HN
        015C" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST15   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST15   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003312,004680"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003312,004680" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R013" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R013" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R013", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R014 -h

cals2aud Conversion Program Version 1.0

srcdocid: STAVL25732   38597   00010001UMF HN
      001A
dstdocid: STAVL25732   385
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,001728
rdensty: 0200
notes:

cals2aud: normal completion

```
*****************************************************
*                                                   *
* Section 5.1.4.4 Data file header records.         *
*                                                   *
*****************************************************
```

Verifying the data file header records.

"D001R014"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: STAVL25732   38597   00010001UMF HN
        001A"

 Check 56: the "srcdocid: " record is present.
 Check 57: "STAVL25732   38597   00010001UMF HN
        001A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: STAVL25732   385"

 Check 58: the "dstdocid: " record is present.
 Check 59: "STAVL25732   385" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,001728"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,001728" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
    ***********************************************************
    *                                                         *
    * Section 5.2.1.6 Raster files                            *
    *                                                         *
    ***********************************************************
```

 Check 52: all the raster file records in "D001R014" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R014" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R014", with the block
           padded to the appropriate size.

```
    ***********************************************************
    *                                                         *
    *       PRINT THE CONTENTS OF THE DATA HEADER FILES       *
    *                                                         *
    ***********************************************************
```

cals2aud D001R015 -h

cals2aud Conversion Program Version 1.0

srcdocid: STAVL25732   38597   00010001UMF HN
      002A
dstdocid: STAVL25732   385
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,001728
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R015"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: STAVL25732   38597   00010001UMF HN
       002A"

 Check 56: the "srcdocid: " record is present.
 Check 57: "STAVL25732   38597   00010001UMF HN
       002A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: STAVL25732   385"

 Check 58: the "dstdocid: " record is present.
 Check 59: "STAVL25732   385" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,001728"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,001728" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
    *********************************************************
    *                                                       *
    * Section 5.2.1.6 Raster files                          *
    *                                                       *
    *********************************************************
```

 Check 52: all the raster file records in "D001R015" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R015" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R015", with the block
           padded to the appropriate size.

Successful Completion of MIL-STD-1840A testing.*

```
****************************************************************
*                                                              *
*                  MIL-R-28002 VALIDATION                      *
*                                                              *
*   The raster files are tested for adherence to the           *
*   MIL-R-28002 standard as documented in                      *
*            MIL-R-28002, 20 December 1988                      *
*            Military Specification                            *
*            Raster Graphics Representation in Binary Format,   *
*                Requirements For                              *
*                                                              *
*                                                              *
****************************************************************
```

RASTER FILE : "D001R001"

```
        **********************************************************
        *                                                        *
        * Section 3.2 Verify CCITT Recommendation T.6 Group *
        *               4 Encoding                             *
        *                                                        *
        **********************************************************
```

Verifying data file content

cals2aud D001R001 D001R001.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
        **********************************************************
        *                                                        *
        * Section 3.1.1 Raster data file header records       *
        *                                                        *
        **********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 001728,002200"

 Check 5: the dimensions "001728,002200" are two positive numbers.
 Check 6: the actual image width is 1728.
 Check 7: the actual image height is 2200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
******************************************************
*                                                    *
* Section 6.3.2 Scanlines for engineering drawings   *
*                                                    *
******************************************************
```

Check 9: the width, 1728, conforms to recommended A size values.
Check 10: the height, 2200, conforms to recommended A size values.

RASTER FILE : "D001R002"

```
******************************************************
*                                                    *
* Section 3.2 Verify CCITT Recommendation T.6 Group  *
*               4 Encoding                            *
*                                                    *
******************************************************
```

Verifying data file content

cals2aud D001R002 D001R002.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
******************************************************
*                                                    *
* Section 3.1.1 Raster data file header records      *
*                                                    *
******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 001728,002200"

 Check 5: the dimensions "001728,002200" are two positive numbers.
 Check 6: the actual image width is 1728.
 Check 7: the actual image height is 2200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
******************************************************
*                                                    *
* Section 6.3.2 Scanlines for engineering drawings   *
*                                                    *
******************************************************
```

Check 9: the width, 1728, conforms to recommended A size values.
Check 10: the height, 2200, conforms to recommended A size values.

RASTER FILE : "D001R003"

```
*************************************************************
*                                                           *
* Section 3.2 Verify CCITT Recommendation T.6 Group         *
*              4 Encoding                                    *
*                                                           *
*************************************************************
```

Verifying data file content

cals2aud D001R003 D001R003.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*************************************************************
*                                                           *
* Section 3.1.1 Raster data file header records             *
*                                                           *
*************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002240,003400"

 Check 5: the dimensions "002240,003400" are two positive numbers.
 Check 6: the actual image width is 2240.
 Check 7: the actual image height is 3400.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*************************************************************
*                                                           *
* Section 6.3.2 Scanlines for engineering drawings          *
*                                                           *
*************************************************************
```

 Check 9: the width, 2240, conforms to recommended B,G size values.
 Check 10: the height, 3400, conforms to recommended B size values.

RASTER FILE : "D001R004"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*             4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R004 D001R004.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003456,004400"

 Check 5: the dimensions "003456,004400" are two positive numbers.
 Check 6: the actual image width is 3456.
 Check 7: the actual image height is 4400.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

 Check 9: the width, 3456, conforms to recommended C size values.
 Check 10: the height, 4400, conforms to recommended C size values.

```
RASTER FILE : "D001R005"

     ************************************************************
     *                                                          *
     * Section 3.2 Verify CCITT Recommendation T.6 Group        *
     *             4 Encoding                                    *
     *                                                          *
     ************************************************************

Verifying data file content

cals2aud D001R005 D001R005.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

  _____


     ************************************************************
     *                                                          *
     * Section 3.1.1 Raster data file header records            *
     *                                                          *
     ************************************************************

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004416,006800"

 Check 5: the dimensions "004416,006800" are two positive numbers.
 Check 6: the actual image width is 4416.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

  _____


     ************************************************************
     *                                                          *
     * Section 6.3.2 Scanlines for engineering drawings         *
     *                                                          *
     ************************************************************

 Check 9: the width, 4416, conforms to recommended D size values.
 Check 10: the height, 6800, conforms to recommended D size values.


  _____
```

RASTER FILE : "D001R006"

```
    ***********************************************************
    *                                                         *
    * Section 3.2 Verify CCITT Recommendation T.6 Group  *
    *                4 Encoding                               *
    *                                                         *
    ***********************************************************
```

Verifying data file content

cals2aud D001R006 D001R006.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ***********************************************************
    *                                                         *
    * Section 3.1.1 Raster data file header records      *
    *                                                         *
    ***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,008800"

 Check 5: the dimensions "006848,008800" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ***********************************************************
    *                                                         *
    * Section 6.3.2 Scanlines for engineering drawings  *
    *                                                         *
    ***********************************************************
```

 Check 9: the width, 6848, conforms to recommended E,J size values.
 Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R007"

```
    ************************************************************
    *                                                          *
    * Section 3.2 Verify CCITT Recommendation T.6 Group *
    *              4 Encoding                                   *
    *                                                          *
    ************************************************************
```

Verifying data file content

cals2aud D001R007 D001R007.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ************************************************************
    *                                                          *
    * Section 3.1.1 Raster data file header records      *
    *                                                          *
    ************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002480,003616"

 Check 5: the dimensions "002480,003616" are two positive numbers.
 Check 6: the actual image width is 2480.
 Check 7: the actual image height is 3616.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ************************************************************
    *                                                          *
    * Section 6.3.2 Scanlines for engineering drawings  *
    *                                                          *
    ************************************************************
```

 Check 9: WARNING! the width, 2480, does not conform to recommended values.
 Check 10: WARNING! the height, 3616, does not conform to recommended values.

RASTER FILE : "D001R008"

```
****************************************************
*                                                  *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*            4 Encoding                             *
*                                                  *
****************************************************
```

Verifying data file content

cals2aud D001R008 D001R008.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************
*                                                  *
* Section 3.1.1 Raster data file header records    *
*                                                  *
****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006800,008800"

 Check 5: the dimensions "006800,008800" are two positive numbers.
 Check 6: the actual image width is 6800.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************
*                                                  *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                  *
****************************************************
```

 Check 9: WARNING! the width, 6800, does not conform to recommended values.
 Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R009"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*              4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R009 D001R009.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,003312"

 Check 5: the dimensions "002208,003312" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 3312.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

 Check 9: WARNING! the width, 2208, does not conform to recommended values.
 Check 10: the height, 3312, conforms to recommended A3 size values.

```
RASTER FILE : "D001R010"

    ********************************************************
    *                                                      *
    * Section 3.2 Verify CCITT Recommendation T.6 Group    *
    *                4 Encoding                             *
    *                                                      *
    ********************************************************

Verifying data file content

cals2aud D001R010 D001R010.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

  Check 1: compressed data conforms to CCITT Group IV
           recommendations.

-----------------------------------------------------------

    ********************************************************
    *                                                      *
    * Section 3.1.1 Raster data file header records        *
    *                                                      *
    ********************************************************

"rtype: 1"

  Check 2: data is of type I.

"rorient: 090,270"

  Check 3: the pel path "090" is a permissible value.
  Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004848,006800"

  Check 5: the dimensions "004848,006800" are two positive numbers.
  Check 6: the actual image width is 4848.
  Check 7: the actual image height is 6800.

"rdensity: 0200"

  Check 8: the raster image density is 200.

-----------------------------------------------------------

    ********************************************************
    *                                                      *
    * Section 6.3.2 Scanlines for engineering drawings     *
    *                                                      *
    ********************************************************

  Check 9: WARNING! the width, 4848, does not conform to recommended values.
  Check 10: the height, 6800, conforms to recommended D size values.


-----------------------------------------------------------
```

RASTER FILE : "D001R011"

```
*******************************************************
*                                                     *
* Section 3.2 Verify CCITT Recommendation T.6 Group   *
*              4 Encoding                              *
*                                                     *
*******************************************************
```

Verifying data file content

cals2aud D001R011 D001R011.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*******************************************************
*                                                     *
* Section 3.1.1 Raster data file header records       *
*                                                     *
*******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,001656"

 Check 5: the dimensions "002208,001656" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 1656.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*******************************************************
*                                                     *
* Section 6.3.2 Scanlines for engineering drawings    *
*                                                     *
*******************************************************
```

 Check 9: WARNING! the width, 2208, does not conform to recommended values.
 Check 10: WARNING! the height, 1656, does not conform to recommended values.

RASTER FILE : "D001R012"

```
*************************************************************
*                                                           *
* Section 3.2 Verify CCITT Recommendation T.6 Group         *
*                4 Encoding                                  *
*                                                           *
*************************************************************
```

Verifying data file content

cals2aud D001R012 D001R012.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*************************************************************
*                                                           *
* Section 3.1.1 Raster data file header records             *
*                                                           *
*************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004688,006624"

 Check 5: the dimensions "004688,006624" are two positive numbers.
 Check 6: the actual image width is 4688.
 Check 7: the actual image height is 6624.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*************************************************************
*                                                           *
* Section 6.3.2 Scanlines for engineering drawings          *
*                                                           *
*************************************************************
```

 Check 9: WARNING! the width, 4688, does not conform to recommended values.
 Check 10: WARNING! the height, 6624, does not conform to recommended values.

RASTER FILE : "D001R013"

```
    *******************************************************
    *                                                     *
    * Section 3.2 Verify CCITT Recommendation T.6 Group   *
    *             4 Encoding                               *
    *                                                     *
    *******************************************************
```

Verifying data file content

cals2aud D001R013 D001R013.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    *******************************************************
    *                                                     *
    * Section 3.1.1 Raster data file header records       *
    *                                                     *
    *******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003312,004680"

 Check 5: the dimensions "003312,004680" are two positive numbers.
 Check 6: the actual image width is 3312.
 Check 7: the actual image height is 4680.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    *******************************************************
    *                                                     *
    * Section 6.3.2 Scanlines for engineering drawings    *
    *                                                     *
    *******************************************************
```

 Check 9: the width, 3312, conforms to recommended A2 size values.
 Check 10: the height, 4680, conforms to recommended A2 size values.

RASTER FILE : "D001R014"

```
*******************************************************
*                                                     *
* Section 3.2 Verify CCITT Recommendation T.6 Group   *
*              4 Encoding                              *
*                                                     *
*******************************************************
```

Verifying data file content

cals2aud D001R014 D001R014.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*******************************************************
*                                                     *
* Section 3.1.1 Raster data file header records       *
*                                                     *
*******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,001728"

 Check 5: the dimensions "002208,001728" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 1728.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*******************************************************
*                                                     *
* Section 6.3.2 Scanlines for engineering drawings    *
*                                                     *
*******************************************************
```

 Check 9: WARNING! the width, 2208, does not conform to recommended values.
 Check 10: WARNING! the height, 1728, does not conform to recommended values.

RASTER FILE : "D001R015"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*              4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R015 D001R015.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,001728"

 Check 5: the dimensions "002208,001728" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 1728.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

 Check 9: WARNING! the width, 2208, does not conform to recommended values.
 Check 10: WARNING! the height, 1728, does not conform to recommended values.

Successful Completion of MIL-R-28002 testing.*

VISUAL ANALYSIS OF IMAGES

*SCALE (SCORE):   0 - 2 = Poor overall scan quality.
                   3 - 5 = Fair overall scan quality.
                   6 - 8 = Satisfactory overall scan quality.
                      9 = Good overall scan quality.
                  10 = Excellent overall scan quality.

FILE	SCORE*	NOTES
D001R001	9	Good text. Lines not all continuous. Some noise.
D001R002	8	Good text. Lines not all continuous. Lots of noise. Slight skew in horizontal direction.
D001R003	7	Some smudgy, unreadable text. Lots of noise. Slight skew in horizontal direction.
D001R004	8	Good overall text and lines. Moderate noise.
D001R005	7	Some illegible text and smudged lines. Moderate noise.
D001R006	8	Some unclear text. Good lines. Noisy
D001R007	10	Excellent. Clean and crisp lines.
D001R008	10	Excellent. Clean and crisp lines.
D001R009	10	Excellent. Clean and crisp lines. Little noise.
D001R010	10	Excellent. Clean and crisp lines.
D001R011	8	Clean and clear lines. Incorrect orientation.
D001R012	9	General clean and clear. Some noise.
D001R013	9	General clean and clear. Some noise.
D001R014	8	Good overall text and lines. Some noise. Slight skew in horizontal direction. Noticeable skew in vertical direction.
D001R015	9	Good overall text and lines. Some noise. Slight skew in horizontal direction.

PERCENTAGE DECREASE OF FILE SIZE
AFTER SPECKLE REMOVAL

FILE	% drop
D001R001	4
D001R002	80
D001R003	12
D001R004	10
D001R005	80
D001R006	10
D001R007	0
D001R008	0
D001R009	20
D001R010	0
D001R011	95
D001R012	98
D001R013	98
D001R014	1
D001R015	2

Attachment 6-2

```
***************************************************************
*                                                             *
*                 MIL-STD-1840A VALIDATION                    *
*                                                             *
*   The program scans and validates the contents of a magnetic *
*   tape for compliance to the MIL-STD-1840A standard.         *
*                                                             *
*                                                             *
***************************************************************


      *******************************************************
      *                                                     *
      *   SCAN THE MIL-STD-1840A CALS TAPE                  *
      *                                                     *
      *******************************************************


  ------------------------------------------------------------


      *******************************************************
      *                                                     *
      *   VERIFY SECTION 5.1 File structure for transfer    *
      *                                                     *
      *******************************************************

 Check 6: There is one declaration file, "D001".
 Check 7: There exists at least one data file.
 Check 8: The declaration file, "D001", does precede the data files.

  ------------------------------------------------------------


      *******************************************************
      *                                                     *
      *            READ THE DECLARATION FILE                *
      *                                                     *
      *******************************************************

 rwmt -r -f 1 D001 -rf d
      15 records read from tape file #1 into "D001".

  ------------------------------------------------------------


      *******************************************************
      *                                                     *
      *     PRINT THE CONTENTS OF THE DECLARATION FILE      *
      *                                                     *
      *******************************************************

 catf D001

 srcsys: NOSL, Louisville Ky.
 srcdocid: MIL-STD-1840A Raster Test Suite
 srcrelid: NONE
 chglvl: ORIGINAL
 dteisu: 19910531
 dstsys: LLNL
 dstdocid: MIL-STD-1840A Raster Test Suite (Modified)
 dstrelid: NONE
 dtetrn: 19910531
 dlvacc: NONE
 filcnt: R20
 ttlcls: Unclassified
 doccls: Unclassified
 doctyp: CTN Raster Reference Images
 docttl: CTN Raster Test Suite


  ------------------------------------------------------------
```

```
************************************************************
*                                                          *
*   VERIFY SECTION 5.2.1.3 Declaration File               *
*                                                          *
************************************************************
```

Check 9:   the declaration file, "D001", consists of sequential
           variable length records.
Check 10: the records are all of ANSI type D (variable).
Check 11: the maximum record length is 256 bytes.
Check 12: each block is 2048 bytes.

```
************************************************************
*                                                          *
*   Section 5.1.1.1 Declaration File Name                 *
*                                                          *
************************************************************
```

Verifying Declaration File Name, "D001"

Check 13: "D001" is four characters in length.
Check 14: the first character of "D001" is a "D".
Check 15: the next three characters in "D001" are ASCII
           numbers between 001 to 999.

```
************************************************************
*                                                          *
*   Section 5.1.1.2 Declaration File Content              *
*                                                          *
************************************************************
```

Verifying the Contents of the Declaration File, "D001"

Record 1. - Source system (srcsys:).

"srcsys: NOSL, Louisville Ky."

Check 16: the "srcsys: " record is present.
Check 17: "NOSL, Louisville Ky." follows the "srcsys: " record.

Record 2. - Source system document identifier (srcdocid:).

"srcdocid: MIL-STD-1840A Raster Test Suite"

Check 18: the "srcdocid: " record is present.
Check 19: "MIL-STD-1840A Raster Test Suite" follows the "srcdocid: " record.

Record 3. - Source system related document identifier (srcrelid:).

"srcrelid: NONE"

Check 20: the "srcrelid: " record is present.
Check 21: "NONE" follows the "srcrelid: " record.

Record 4. - Highest revision and change level in the document
            (chglvl:).

"chglvl: ORIGINAL"

Check 22: the "chglvl: " record is present.
Check 23: the word "ORIGINAL" follows the record. No date was
           given.

Record 5. - Date of issue of the latest change to the document
          (dteisu:).

"dteisu: 19910531"

 Check 24: the "dteisu: " record is present.
 Check 25: the date, 19910531, is provided in YYYYMMDD format.

Record 6. - Destination system (dstsys:).

"dstsys: LLNL"

 Check 26: the "dstsys: " record is present.
 Check 27: "LLNL" follows the "dstsys: " record.

Record 7. - Destination system document identifier (dstdocid:).

"dstdocid: MIL-STD-1840A Raster Test Suite (Modified)"

 Check 28: the "dstdocid: " record is present.
 Check 29: "MIL-STD-1840A Raster Test Suite (Modified)" follows the "dstdocid:
 " record.

Record 8. - Destination system related document identifier
          (dstrelid:).

"dstrelid: NONE"

 Check 30: the "dstrelid: " record is present.
 Check 31: "NONE" follows the "dstrelid: " record.

Record 9. - Date of transfer (dtetrn:).

"dtetrn: 19910531"

 Check 32: the "dtetrn: " record is present.
 Check 33: the date, 19910531, is provided in YYYYMMDD format.

Record 10. - Delivery accounting (dlvacc:).

"dlvacc: NONE"

 Check 34: the "dlvacc: " record is present.
 Check 35: "NONE" follows the "dlvacc: " record.

Record 11. - File count (filcnt:).

"filcnt: R20"

 Check 36: the "filcnt: " record is present.
 Check 37: the letter "R" immediately follows the record.
 Check 38: the file count, 20, follows the "R" with no spaces
          between the count and the character.

Record 12. - Title Security Label (ttlcls:).

"ttlcls: Unclassified"

 Check 39: the "ttlcls: " record is present.
 Check 40: "Unclassified" follows the "ttlcls: " record.

Record 13. - Document Security Label (doccls:).

"doccls: Unclassified"

 Check 41: the "doccls: " record is present.
 Check 42: "Unclassified" follows the "doccls: " record.

Record 14. - Document Type (doctyp:).

"doctyp: CTN Raster Reference Images"

 Check 43: the "doctyp: " record is present.
 Check 44: "CTN Raster Reference Images" follows the "doctyp: " record.

Record 15. - Document Title (docttl:).

"docttl: CTN Raster Test Suite"

 Check 45: the "docttl: " record is present.
 Check 46: "CTN Raster Test Suite" follows the "docttl: " record.

        ****
        *   *
        * Section 5.1.3 Data File Name   *
        *   *
        ****

Verifying the Names of the 20 data files

"D001R001"
 Check 47: "D001R001" is eight characters long.
 Check 48: the first four characters of "D001R001" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R001" is the letter "R".
 Check 50: the last three characters of "D001R001" are "001",
           a decimal number from "001" to "999".
 Check 51: "D001R001" is the number 1 data file for the document
           and correctly uses "001".

"D001R002"
 Check 47: "D001R002" is eight characters long.
 Check 48: the first four characters of "D001R002" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R002" is the letter "R".
 Check 50: the last three characters of "D001R002" are "002",
           a decimal number from "001" to "999".
 Check 51: "D001R002" is the number 2 data file for the document
           and correctly uses "002".

"D001R003"
 Check 47: "D001R003" is eight characters long.
 Check 48: the first four characters of "D001R003" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R003" is the letter "R".
 Check 50: the last three characters of "D001R003" are "003",
           a decimal number from "001" to "999".
 Check 51: "D001R003" is the number 3 data file for the document
           and correctly uses "003".

"D001R004"
 Check 47: "D001R004" is eight characters long.
 Check 48: the first four characters of "D001R004" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R004" is the letter "R".
 Check 50: the last three characters of "D001R004" are "004",
           a decimal number from "001" to "999".
 Check 51: "D001R004" is the number 4 data file for the document
           and correctly uses "004".

"D001R005"
Check 47: "D001R005" is eight characters long.
Check 48: the first four characters of "D001R005" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R005" is the letter "R".
Check 50: the last three characters of "D001R005" are "005",
a decimal number from "001" to "999".
Check 51: "D001R005" is the number 5 data file for the document
and correctly uses "005".

"D001R006"
Check 47: "D001R006" is eight characters long.
Check 48: the first four characters of "D001R006" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R006" is the letter "R".
Check 50: the last three characters of "D001R006" are "006",
a decimal number from "001" to "999".
Check 51: "D001R006" is the number 6 data file for the document
and correctly uses "006".

"D001R007"
Check 47: "D001R007" is eight characters long.
Check 48: the first four characters of "D001R007" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R007" is the letter "R".
Check 50: the last three characters of "D001R007" are "007",
a decimal number from "001" to "999".
Check 51: "D001R007" is the number 7 data file for the document
and correctly uses "007".

"D001R008"
Check 47: "D001R008" is eight characters long.
Check 48: the first four characters of "D001R008" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R008" is the letter "R".
Check 50: the last three characters of "D001R008" are "008",
a decimal number from "001" to "999".
Check 51: "D001R008" is the number 8 data file for the document
and correctly uses "008".

"D001R009"
Check 47: "D001R009" is eight characters long.
Check 48: the first four characters of "D001R009" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R009" is the letter "R".
Check 50: the last three characters of "D001R009" are "009",
a decimal number from "001" to "999".
Check 51: "D001R009" is the number 9 data file for the document
and correctly uses "009".

"D001R010"
Check 47: "D001R010" is eight characters long.
Check 48: the first four characters of "D001R010" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R010" is the letter "R".
Check 50: the last three characters of "D001R010" are "010",
a decimal number from "001" to "999".
Check 51: "D001R010" is the number 10 data file for the document
and correctly uses "010".

"D001R011"
Check 47: "D001R011" is eight characters long.
Check 48: the first four characters of "D001R011" are the same as
the declaration file name, "D001".
Check 49: the fifth character of "D001R011" is the letter "R".
Check 50: the last three characters of "D001R011" are "011",
a decimal number from "001" to "999".
Check 51: "D001R011" is the number 11 data file for the document
and correctly uses "011".

"D001R012"
 Check 47: "D001R012" is eight characters long.
 Check 48: the first four characters of "D001R012" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R012" is the letter "R".
 Check 50: the last three characters of "D001R012" are "012",
           a decimal number from "001" to "999".
 Check 51: "D001R012" is the number 12 data file for the document
           and correctly uses "012".

"D001R013"
 Check 47: "D001R013" is eight characters long.
 Check 48: the first four characters of "D001R013" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R013" is the letter "R".
 Check 50: the last three characters of "D001R013" are "013",
           a decimal number from "001" to "999".
 Check 51: "D001R013" is the number 13 data file for the document
           and correctly uses "013".

"D001R014"
 Check 47: "D001R014" is eight characters long.
 Check 48: the first four characters of "D001R014" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R014" is the letter "R".
 Check 50: the last three characters of "D001R014" are "014",
           a decimal number from "001" to "999".
 Check 51: "D001R014" is the number 14 data file for the document
           and correctly uses "014".

"D001R015"
 Check 47: "D001R015" is eight characters long.
 Check 48: the first four characters of "D001R015" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R015" is the letter "R".
 Check 50: the last three characters of "D001R015" are "015",
           a decimal number from "001" to "999".
 Check 51: "D001R015" is the number 15 data file for the document
           and correctly uses "015".

"D001R016"
 Check 47: "D001R016" is eight characters long.
 Check 48: the first four characters of "D001R016" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R016" is the letter "R".
 Check 50: the last three characters of "D001R016" are "016",
           a decimal number from "001" to "999".
 Check 51: "D001R016" is the number 16 data file for the document
           and correctly uses "016".

"D001R017"
 Check 47: "D001R017" is eight characters long.
 Check 48: the first four characters of "D001R017" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R017" is the letter "R".
 Check 50: the last three characters of "D001R017" are "017",
           a decimal number from "001" to "999".
 Check 51: "D001R017" is the number 17 data file for the document
           and correctly uses "017".

"D001R018"
 Check 47: "D001R018" is eight characters long.
 Check 48: the first four characters of "D001R018" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R018" is the letter "R".
 Check 50: the last three characters of "D001R018" are "018",
           a decimal number from "001" to "999".
 Check 51: "D001R018" is the number 18 data file for the document
           and correctly uses "018".

"D001R019"
Check 47: "D001R019" is eight characters long.
Check 48: the first four characters of "D001R019" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R019" is the letter "R".
Check 50: the last three characters of "D001R019" are "019",
          a decimal number from "001" to "999".
Check 51: "D001R019" is the number 19 data file for the document
          and correctly uses "019".

"D001R020"
Check 47: "D001R020" is eight characters long.
Check 48: the first four characters of "D001R020" are the same as
          the declaration file name, "D001".
Check 49: the fifth character of "D001R020" is the letter "R".
Check 50: the last three characters of "D001R020" are "020",
          a decimal number from "001" to "999".
Check 51: "D001R020" is the number 20 data file for the document
          and correctly uses "020".

```
    *************************************************************
    *                                                          *
    *        PRINT THE CONTENTS OF THE DATA HEADER FILES        *
    *                                                          *
    *************************************************************
```

cals2aud D001R001 -h

cals2aud Conversion Program Version 1.0

srcdocid: PL10677287
dstdocid: PL10677287
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 001728,002200
rdensty: 0200
notes:

cals2aud: normal completion

```
    *************************************************************
    *                                                          *
    * Section 5.1.4.4 Data file header records.                *
    *                                                          *
    *************************************************************
```

Verifying the data file header records.

"D001R001"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: PL10677287"

 Check 56: the "srcdocid: " record is present.
 Check 57: "PL10677287" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: PL10677287"

 Check 58: the "dstdocid: " record is present.
 Check 59: "PL10677287" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 001728,002200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "001728,002200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
----------------------------------------------------------------

    ***********************************************************
    *                                                         *
    *  Section 5.2.1.6 Raster files                           *
    *                                                         *
    ***********************************************************

  Check 52: all the raster file records in "D001R001" are written
            with 128 byte ANSI type F fixed-length records.
  Check 53: the header block is of length 2048 bytes.
  Check 54: the second and all succeeding physical blocks of
            "D001R001" contain the image data encoded in raster
            CCITT group 4 code.
  Check 55: all the data header records are written in the
            first physical block of "D001R001", with the block
            padded to the appropriate size.


----------------------------------------------------------------

    ***********************************************************
    *                                                         *
    *      PRINT THE CONTENTS OF THE DATA HEADER FILES        *
    *                                                         *
    ***********************************************************

cals2aud D001R002 -h

cals2aud Conversion Program Version 1.0


srcdocid: PD157629
dstdocid: PD157629
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002240,003400
rdensty: 0200
notes:

cals2aud: normal completion


----------------------------------------------------------------

    ***********************************************************
    *                                                         *
    *  Section 5.1.4.4 Data file header records.              *
    *                                                         *
    ***********************************************************

Verifying the data file header records.

"D001R002"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: PD157629"

  Check 56: the "srcdocid: " record is present.
  Check 57: "PD157629" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: PD157629"

  Check 58: the "dstdocid: " record is present.
```

Check 59: "PD157629" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002240,003400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002240,003400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**********************************************************
*                                                        *
*  Section 5.2.1.6 Raster files                          *
*                                                        *
**********************************************************
```

Check 52: all the raster file records in "D001R002" are written
         with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
         "D001R002" contain the image data encoded in raster
         CCITT group 4 code.
Check 55: all the data header records are written in the
         first physical block of "D001R002", with the block
         padded to the appropriate size.

```
**********************************************************
*                                                        *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES     *
*                                                        *
**********************************************************
```

cals2aud D001R003 -h

cals2aud Conversion Program Version 1.0

srcdocid: SL13100622
dstdocid: SL13100622
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003456,004400
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
*  Section 5.1.4.4 Data file header records.             *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R003"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: SL13100622"

 Check 56: the "srcdocid: " record is present.
 Check 57: "SL13100622" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: SL13100622"

 Check 58: the "dstdocid: " record is present.
 Check 59: "SL13100622" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003456,004400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003456,004400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**********************************************************
*                                                        *
* Section 5.2.1.6 Raster files                           *
*                                                        *
**********************************************************
```

Check 52: all the raster file records in "D001R003" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R003" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R003", with the block
          padded to the appropriate size.

```
**********************************************************
*                                                        *
*     PRINT THE CONTENTS OF THE DATA HEADER FILES        *
*                                                        *
**********************************************************
```

cals2aud D001R004 -h

cals2aud Conversion Program Version 1.0

srcdocid: PD8539022
dstdocid: PD8539022
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004416,006800
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R004"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: PD8539022"

 Check 56: the "srcdocid: " record is present.
 Check 57: "PD8539022" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: PD8539022"

 Check 58: the "dstdocid: " record is present.
 Check 59: "PD8539022" follows the "dstdocid: " record.

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Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004416,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004416,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*************************************************************
*                                                           *
* Section 5.2.1.6 Raster files                              *
*                                                           *
*************************************************************
```

Check 52: all the raster file records in "D001R004" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R004" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R004", with the block
          padded to the appropriate size.

```
*************************************************************
*                                                           *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES          *
*                                                           *
*************************************************************
```

cals2aud D001R005 -h

cals2aud Conversion Program Version 1.0

srcdocid: QA13100580
dstdocid: QA13100580
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
*************************************************************
*                                                           *
* Section 5.1.4.4 Data file header records.                 *
*                                                           *
*************************************************************
```

Verifying the data file header records.

"D001R005"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: QA13100580"

 Check 56: the "srcdocid: " record is present.
 Check 57: "QA13100580" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: QA13100580"

 Check 58: the "dstdocid: " record is present.
 Check 59: "QA13100580" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*************************************************************
*                                                           *
* Section 5.2.1.6 Raster files                              *
*                                                           *
*************************************************************
```

Check 52: all the raster file records in "D001R005" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R005" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R005", with the block
          padded to the appropriate size.

```
*************************************************************
*                                                           *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES          *
*                                                           *
*************************************************************
```

cals2aud D001R006 -h

cals2aud Conversion Program Version 1.0

srcdocid: hufman2a.cals
dstdocid: hufman2a.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 000128,000128
rdensty: 0200
notes:

cals2aud: normal completion

```
*************************************************************
*                                                           *
* Section 5.1.4.4 Data file header records.                 *
*                                                           *
*************************************************************
```

Verifying the data file header records.

"D001R006"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: hufman2a.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "hufman2a.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: hufman2a.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "hufman2a.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 000,270"

 Check 70: the "rorient: " record is present.
 Check 71: "000,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 000128,000128"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "000128,000128" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**********************************************************
*                                                        *
*  Section 5.2.1.6 Raster files                          *
*                                                        *
**********************************************************
```

Check 52: all the raster file records in "D001R006" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R006" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R006", with the block
          padded to the appropriate size.

```
**********************************************************
*                                                        *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                        *
**********************************************************
```

cals2aud D001R007 -h

cals2aud Conversion Program Version 1.0

srcdocid: hufman3.cals
dstdocid: hufman3.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 003600,000056
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
*  Section 5.1.4.4 Data file header records.             *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R007"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: hufman3.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "hufman3.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: hufman3.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "hufman3.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 000,270"

 Check 70: the "rorient: " record is present.
 Check 71: "000,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003600,000056"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003600,000056" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**************************************************************
*                                                            *
* Section 5.2.1.6 Raster files                               *
*                                                            *
**************************************************************
```

Check 52: all the raster file records in "D001R007" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R007" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R007", with the block
          padded to the appropriate size.

```
**************************************************************
*                                                            *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES          *
*                                                            *
**************************************************************
```

cals2aud D001R008 -h

cals2aud Conversion Program Version 1.0

srcdocid: hufman3a.cals
dstdocid: hufman3a.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 003600,000056
rdensty: 0200
notes:

cals2aud: normal completion

```
**************************************************************
*                                                            *
* Section 5.1.4.4 Data file header records.                  *
*                                                            *
**************************************************************
```

Verifying the data file header records.

"D001R008"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: hufman3a.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "hufman3a.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: hufman3a.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "hufman3a.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 000,270"

 Check 70: the "rorient: " record is present.
 Check 71: "000,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003600,000056"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003600,000056" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*********************************************************
*                                                       *
*  Section 5.2.1.6 Raster files                         *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R008" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R008" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R008", with the block
          padded to the appropriate size.

```
*********************************************************
*                                                       *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES      *
*                                                       *
*********************************************************
```

cals2aud D001R009 -h

cals2aud Conversion Program Version 1.0

srcdocid: apt-cadr-1.cals
dstdocid: apt-cadr-1.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 007040,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
*  Section 5.1.4.4 Data file header records.            *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R009"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: apt-cadr-1.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "apt-cadr-1.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: apt-cadr-1.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "apt-cadr-1.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 007040,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "007040,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***********************************************************
*                                                         *
* Section 5.2.1.6 Raster files                            *
*                                                         *
***********************************************************
```

Check 52: all the raster file records in "D001R009" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R009" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R009", with the block
          padded to the appropriate size.

```
***********************************************************
*                                                         *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                         *
***********************************************************
```

cals2aud D001R010 -h

cals2aud Conversion Program Version 1.0

srcdocid: GEO-TARGT.CALS
dstdocid: GEO-TARGT.CALS
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006800,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R010"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: GEO-TARGT.CALS"

 Check 56: the "srcdocid: " record is present.
 Check 57: "GEO-TARGT.CALS" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: GEO-TARGT.CALS"

 Check 58: the "dstdocid: " record is present.
 Check 59: "GEO-TARGT.CALS" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006800,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006800,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
************************************************************
*                                                          *
* Section 5.2.1.6 Raster files                             *
*                                                          *
************************************************************
```

Check 52: all the raster file records in "D001R010" are written
         with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
         "D001R010" contain the image data encoded in raster
         CCITT group 4 code.
Check 55: all the data header records are written in the
         first physical block of "D001R010", with the block
         padded to the appropriate size.

```
************************************************************
*                                                          *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                          *
************************************************************
```

cals2aud D001R011 -h

cals2aud Conversion Program Version 1.0

srcdocid: ANSI-AB-16x.cals
dstdocid: ANSI-AB-16x.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002480,003616
rdensty: 0200
notes:

cals2aud: normal completion

```
************************************************************
*                                                          *
* Section 5.1.4.4 Data file header records.                *
*                                                          *
************************************************************
```

Verifying the data file header records.

"D001R011"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: ANSI-AB-16x.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "ANSI-AB-16x.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: ANSI-AB-16x.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "ANSI-AB-16x.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002480,003616"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002480,003616" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***************************************************
*                                                 *
* Section 5.2.1.6 Raster files                    *
*                                                 *
***************************************************
```

Check 52: all the raster file records in "D001R011" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R011" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R011", with the block
          padded to the appropriate size.

```
***************************************************
*                                                 *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES *
*                                                 *
***************************************************
```

cals2aud D001R012 -h

cals2aud Conversion Program Version 1.0

srcdocid: ansi-cd-24x.cals
dstdocid: ansi-cd-24x.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004848,006800
rdensty: 0200
notes:

cals2aud: normal completion

```
***************************************************
*                                                 *
* Section 5.1.4.4 Data file header records.       *
*                                                 *
***************************************************
```

Verifying the data file header records.

"D001R012"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: ansi-cd-24x.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "ansi-cd-24x.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: ansi-cd-24x.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "ansi-cd-24x.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004848,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004848,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***********************************************************
*                                                         *
* Section 5.2.1.6 Raster files                            *
*                                                         *
***********************************************************
```

   Check 52: all the raster file records in "D001R012" are written
            with 128 byte ANSI type F fixed-length records.
   Check 53: the header block is of length 2048 bytes.
   Check 54: the second and all succeeding physical blocks of
            "D001R012" contain the image data encoded in raster
            CCITT group 4 code.
   Check 55: all the data header records are written in the
            first physical block of "D001R012", with the block
            padded to the appropriate size.

```
***********************************************************
*                                                         *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                         *
***********************************************************
```

cals2aud D001R013 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTN_EXAMPLE_6
dstdocid: CTN_EXAMPLE_6
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 270,270
rpelcnt: 006848,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R013"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTN_EXAMPLE_6"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CTN_EXAMPLE_6" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTN_EXAMPLE_6"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CTN_EXAMPLE_6" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 270,270"

 Check 70: the "rorient: " record is present.
 Check 71: "270,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
************************************************************
*                                                          *
* Section 5.2.1.6 Raster files                             *
*                                                          *
************************************************************
```

Check 52: all the raster file records in "D001R013" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R013" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R013", with the block
          padded to the appropriate size.

```
************************************************************
*                                                          *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES         *
*                                                          *
************************************************************
```

cals2aud D001R014 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTN_EXAMPLE_6
dstdocid: CTN_EXAMPLE_6
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 270,270
rpelcnt: 006848,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
************************************************************
*                                                          *
* Section 5.1.4.4 Data file header records.                *
*                                                          *
************************************************************
```

Verifying the data file header records.

"D001R014"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTN_EXAMPLE_6"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CTN_EXAMPLE_6" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTN_EXAMPLE_6"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CTN_EXAMPLE_6" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 270,270"

 Check 70: the "rorient: " record is present.
 Check 71: "270,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*******************************************************
*                                                     *
* Section 5.2.1.6 Raster files                        *
*                                                     *
*******************************************************
```

Check 52: all the raster file records in "D001R014" are written
         with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
         "D001R014" contain the image data encoded in raster
         CCITT group 4 code.
Check 55: all the data header records are written in the
         first physical block of "D001R014", with the block
         padded to the appropriate size.

```
*******************************************************
*                                                     *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES   *
*                                                     *
*******************************************************
```

cals2aud D001R015 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTN_EXAMPLE_6
dstdocid: CTN_EXAMPLE_6
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 270,270
rpelcnt: 006848,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
*******************************************************
*                                                     *
* Section 5.1.4.4 Data file header records.           *
*                                                     *
*******************************************************
```

Verifying the data file header records.

"D001R015"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTN_EXAMPLE_6"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CTN_EXAMPLE_6" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTN_EXAMPLE_6"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CTN_EXAMPLE_6" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 270,270"

 Check 70: the "rorient: " record is present.
 Check 71: "270,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
****************************************************
*                                                  *
* Section 5.2.1.6 Raster files                     *
*                                                  *
****************************************************
```

Check 52: all the raster file records in "D001R015" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R015" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R015", with the block
          padded to the appropriate size.

```
****************************************************
*                                                  *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES  *
*                                                  *
****************************************************
```

cals2aud D001R016 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTN_EXAMPLE_6
dstdocid: CTN_EXAMPLE_6
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 270,270
rpelcnt: 006848,001024
rdensty: 0200
notes:

cals2aud: normal completion

```
****************************************************
*                                                  *
* Section 5.1.4.4 Data file header records.        *
*                                                  *
****************************************************
```

Verifying the data file header records.

"D001R016"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTN_EXAMPLE_6"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CTN_EXAMPLE_6" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTN_EXAMPLE_6"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CTN_EXAMPLE_6" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 270,270"

 Check 70: the "rorient: " record is present.
 Check 71: "270,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,001024"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,001024" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
****************************************************
*                                                  *
* Section 5.2.1.6 Raster files                      *
*                                                  *
****************************************************
```

Check 52: all the raster file records in "D001R016" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R016" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R016", with the block
          padded to the appropriate size.

```
****************************************************
*                                                  *
*     PRINT THE CONTENTS OF THE DATA HEADER FILES   *
*                                                  *
****************************************************
```

cals2aud D001R017 -h

cals2aud Conversion Program Version 1.0

srcdocid: iso-a4.cals
dstdocid: iso-a4.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 000,270
rpelcnt: 002208,001656
rdensty: 0200
notes:

cals2aud: normal completion

```
****************************************************
*                                                  *
* Section 5.1.4.4 Data file header records.         *
*                                                  *
****************************************************
```

Verifying the data file header records.

"D001R017"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: iso-a4.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "iso-a4.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: iso-a4.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "iso-a4.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 000,270"

 Check 70: the "rorient: " record is present.
 Check 71: "000,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,001656"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,001656" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**************************************************************
*                                                            *
* Section 5.2.1.6 Raster files                               *
*                                                            *
**************************************************************
```

Check 52: all the raster file records in "D001R017" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R017" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R017", with the block
          padded to the appropriate size.

```
**************************************************************
*                                                            *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES          *
*                                                            *
**************************************************************
```

cals2aud D001R018 -h

cals2aud Conversion Program Version 1.0

srcdocid: iso-a3.cals
dstdocid: iso-a3.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,003312
rdensty: 0200
notes:

cals2aud: normal completion

```
**************************************************************
*                                                            *
* Section 5.1.4.4 Data file header records.                  *
*                                                            *
**************************************************************
```

Verifying the data file header records.

"D001R018"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: iso-a3.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "iso-a3.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: iso-a3.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "iso-a3.cals" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,003312"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,003312" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**********************************************************
*                                                        *
*  Section 5.2.1.6 Raster files                          *
*                                                        *
**********************************************************
```

Check 52: all the raster file records in "D001R018" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R018" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R018", with the block
          padded to the appropriate size.

```
**********************************************************
*                                                        *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES      *
*                                                        *
**********************************************************
```

cals2aud D001R019 -h

cals2aud Conversion Program Version 1.0

srcdocid: iso-a2.cals
dstdocid: iso-a2.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003312,004680
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
*  Section 5.1.4.4 Data file header records.             *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R019"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: iso-a2.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "iso-a2.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: iso-a2.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "iso-a2.cals" follows the "dstdocid: " record.

Attachment 7-44

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003312,004680"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003312,004680" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
****************************************************
*                                                  *
* Section 5.2.1.6 Raster files                     *
*                                                  *
****************************************************
```

Check 52: all the raster file records in "D001R019" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R019" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R019", with the block
          padded to the appropriate size.

```
****************************************************
*                                                  *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES *
*                                                  *
****************************************************
```

cals2aud D001R020 -h

cals2aud Conversion Program Version 1.0

srcdocid: ansi-al.cals
dstdocid: ansi-al.cals
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004688,006624
rdensty: 0200
notes:

cals2aud: normal completion

```
****************************************************
*                                                  *
* Section 5.1.4.4 Data file header records.        *
*                                                  *
****************************************************
```

Verifying the data file header records.

"D001R020"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: ansi-al.cals"

 Check 56: the "srcdocid: " record is present.
 Check 57: "ansi-al.cals" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: ansi-al.cals"

 Check 58: the "dstdocid: " record is present.
 Check 59: "ansi-al.cals" follows the "dstdocid: " record.

Attachment 7-46
```

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004688,006624"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004688,006624" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

--------------------------------------------------------------

```
***********************************************************
*                                                         *
*  Section 5.2.1.6 Raster files                           *
*                                                         *
***********************************************************
```

Check 52: all the raster file records in "D001R020" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R020" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R020", with the block
          padded to the appropriate size.

Successful Completion of MIL-STD-1840A testing.*

```
***********************************************************
*                                                         *
*                MIL-R-28002 VALIDATION                   *
*                                                         *
*   The raster files are tested for adherence to the      *
*   MIL-R-28002 standard as documented in                 *
*            MIL-R-28002, 20 December 1988                *
*            Military Specification                       *
*            Raster Graphics Representation in Binary Format, *
*                 Requirements For                        *
*                                                         *
*                                                         *
***********************************************************
```

RASTER FILE : "D001R001"

```
    ***************************************************
    *                                                 *
    * Section 3.2 Verify CCITT Recommendation T.6 Group *
    *              4 Encoding                          *
    *                                                 *
    ***************************************************
```

Verifying data file content

cals2aud D001R001 D001R001.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ***************************************************
    *                                                 *
    * Section 3.1.1 Raster data file header records   *
    *                                                 *
    ***************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 001728,002200"

 Check 5: the dimensions "001728,002200" are two positive numbers.
 Check 6: the actual image width is 1728.
 Check 7: the actual image height is 2200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*******************************************************
*                                                     *
* Section 6.3.2 Scanlines for engineering drawings    *
*                                                     *
*******************************************************

Check 9: the width, 1728, conforms to recommended A size values.
Check 10: the height, 2200, conforms to recommended A size values.


_____


RASTER FILE : "D001R002"

    *******************************************************
    *                                                     *
    * Section 3.2 Verify CCITT Recommendation T.6 Group   *
    *              4 Encoding                              *
    *                                                     *
    *******************************************************

Verifying data file content

cals2aud D001R002 D001R002.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

_____

    *******************************************************
    *                                                     *
    * Section 3.1.1 Raster data file header records       *
    *                                                     *
    *******************************************************

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002240,003400"

 Check 5: the dimensions "002240,003400" are two positive numbers.
 Check 6: the actual image width is 2240.
 Check 7: the actual image height is 3400.

"rdensity: 0200"

 Check 8: the raster image density is 200.

_____
```

```
*****************************************************
*                                                   *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                   *
*****************************************************
```

Check 9: the width, 2240, conforms to recommended B,G size values.
Check 10: the height, 3400, conforms to recommended B size values.

RASTER FILE : "D001R003"

```
*****************************************************
*                                                   *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                             *
*                                                   *
*****************************************************
```

Verifying data file content

cals2aud D001R003 D001R003.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*****************************************************
*                                                   *
* Section 3.1.1 Raster data file header records     *
*                                                   *
*****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003456,004400"

 Check 5: the dimensions "003456,004400" are two positive numbers.
 Check 6: the actual image width is 3456.
 Check 7: the actual image height is 4400.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
*  Section 6.3.2 Scanlines for engineering drawings     *
*                                                       *
*********************************************************

 Check 9: the width, 3456, conforms to recommended C size values. .
 Check 10: the height, 4400, conforms to recommended C size values.


-----------------------------------------------------------------


RASTER FILE : "D001R004"

    *********************************************************
    *                                                       *
    *  Section 3.2 Verify CCITT Recommendation T.6 Group    *
    *             4 Encoding                                 *
    *                                                       *
    *********************************************************

Verifying data file content

cals2aud D001R004 D001R004.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

-----------------------------------------------------------------

    *********************************************************
    *                                                       *
    *  Section 3.1.1 Raster data file header records        *
    *                                                       *
    *********************************************************

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004416,006800"

 Check 5: the dimensions "004416,006800" are two positive numbers.
 Check 6: the actual image width is 4416.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

-----------------------------------------------------------------
```

```
***********************************************************
*                                                         *
*  Section 6.3.2 Scanlines for engineering drawings       *
*                                                         *
***********************************************************
```

Check 9: the width, 4416, conforms to recommended D size values.
Check 10: the height, 6800, conforms to recommended D size values.

RASTER FILE : "D001R005"

```
***********************************************************
*                                                         *
*  Section 3.2 Verify CCITT Recommendation T.6 Group      *
*               4 Encoding                                 *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R005 D001R005.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
*  Section 3.1.1 Raster data file header records          *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,008800"

 Check 5: the dimensions "006848,008800" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                        *
**********************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R006"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*            4 Encoding                                  *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R006 D001R006.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records    *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 000,270"

 Check 3: the pel path "000" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 000128,000128"

 Check 5: the dimensions "000128,000128" are two positive numbers.
 Check 6: the actual image width is 128.
 Check 7: the actual image height is 128.

"rdensity: 0200"

 Check 8: the raster image density is 200.

Attachment 8-6

```
********************************************************
*                                                      *
* Section 6.3.2 Scanlines for engineering drawings     *
*                                                      *
********************************************************
```

Check 9: WARNING! the width, 128, does not conform to recommended values.
Check 10: WARNING! the height, 128, does not conform to recommended values.

RASTER FILE : "D001R007"

```
********************************************************
*                                                      *
* Section 3.2 Verify CCITT Recommendation T.6 Group    *
*             4 Encoding                                *
*                                                      *
********************************************************
```

Verifying data file content

cals2aud D001R007 D001R007.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
********************************************************
*                                                      *
* Section 3.1.1 Raster data file header records        *
*                                                      *
********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 000,270"

 Check 3: the pel path "000" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003600,000056"

 Check 5: the dimensions "003600,000056" are two positive numbers.
 Check 6: the actual image width is 3600.
 Check 7: the actual image height is 56.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ********************************************************
    *                                                      *
    * Section 6.3.2 Scanlines for engineering drawings     *
    *                                                      *
    ********************************************************
```

Check 9: WARNING! the width, 3600, does not conform to recommended values.
Check 10: WARNING! the height, 56, does not conform to recommended values.

RASTER FILE : "D001R008"

```
    ********************************************************
    *                                                      *
    * Section 3.2 Verify CCITT Recommendation T.6 Group    *
    *             4 Encoding                                *
    *                                                      *
    ********************************************************
```

Verifying data file content

cals2aud D001R008 D001R008.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ********************************************************
    *                                                      *
    * Section 3.1.1 Raster data file header records        *
    *                                                      *
    ********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 000,270"

 Check 3: the pel path "000" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003600,000056"

 Check 5: the dimensions "003600,000056" are two positive numbers.
 Check 6: the actual image width is 3600.
 Check 7: the actual image height is 56.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ****************************************************
    *                                                  *
    * Section 6.3.2 Scanlines for engineering drawings *
    *                                                  *
    ****************************************************
```

Check 9: WARNING! the width, 3600, does not conform to recommended values.
Check 10: WARNING! the height, 56, does not conform to recommended values.

RASTER FILE : "D001R009"

```
    ****************************************************
    *                                                  *
    * Section 3.2 Verify CCITT Recommendation T.6 Group *
    *              4 Encoding                           *
    *                                                  *
    ****************************************************
```

Verifying data file content

cals2aud D001R009 D001R009.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ****************************************************
    *                                                  *
    * Section 3.1.1 Raster data file header records    *
    *                                                  *
    ****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 007040,009216"

 Check 5: the dimensions "007040,009216" are two positive numbers.
 Check 6: the actual image width is 7040.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ************************************************************
    *                                                          *
    * Section 6.3.2 Scanlines for engineering drawings  *
    *                                                          *
    ************************************************************
```

Check 9: WARNING! the width, 7040, does not conform to recommended values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R010"

```
    ************************************************************
    *                                                          *
    * Section 3.2 Verify CCITT Recommendation T.6 Group *
    *              4 Encoding                                  *
    *                                                          *
    ************************************************************
```

Verifying data file content

cals2aud D001R010 D001R010.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ************************************************************
    *                                                          *
    * Section 3.1.1 Raster data file header records     *
    *                                                          *
    ************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006800,008800"

 Check 5: the dimensions "006800,008800" are two positive numbers.
 Check 6: the actual image width is 6800.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```

```
****
*   *
* Section 6.3.2 Scanlines for engineering drawings   *
*   *
****
```

Check 9: WARNING! the width, 6800, does not conform to recommended values.
Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R011"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                              *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R011 D001R011.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records      *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002480,003616"

 Check 5: the dimensions "002480,003616" are two positive numbers.
 Check 6: the actual image width is 2480.
 Check 7: the actual image height is 3616.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
     ********************************************************
     *                                                      *
     * Section 6.3.2 Scanlines for engineering drawings     *
     *                                                      *
     ********************************************************

 Check 9: WARNING! the width, 2480, does not conform to recommended values.
 Check 10: WARNING! the height, 3616, does not conform to recommended values.


------------------------------------------------------------------


RASTER FILE : "D001R012"

     ********************************************************
     *                                                      *
     * Section 3.2 Verify CCITT Recommendation T.6 Group    *
     *             4 Encoding                                *
     *                                                      *
     ********************************************************

Verifying data file content

cals2aud D001R012 D001R012.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

------------------------------------------------------------------

     ********************************************************
     *                                                      *
     * Section 3.1.1 Raster data file header records        *
     *                                                      *
     ********************************************************

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004848,006800"

 Check 5: the dimensions "004848,006800" are two positive numbers.
 Check 6: the actual image width is 4848.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

------------------------------------------------------------------
```

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                         *
***********************************************************
```

Check 9: WARNING! the width, 4848, does not conform to recommended values.
Check 10: the height, 6800, conforms to recommended D size values.

RASTER FILE : "D001R013"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                                   *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R013 D001R013.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

  Check 1: compressed data conforms to CCITT Group IV
           recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records     *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 270,270"

 Check 3: the pel path "270" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,009216"

 Check 5: the dimensions "006848,009216" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************************
*                                                              *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                              *
****************************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R014"

```
****************************************************************
*                                                              *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                                       *
*                                                              *
****************************************************************
```

Verifying data file content

cals2aud D001R014 D001R014.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************************
*                                                              *
* Section 3.1.1 Raster data file header records      *
*                                                              *
****************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 270,270"

 Check 3: the pel path "270" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,009216"

 Check 5: the dimensions "006848,009216" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
*  Section 6.3.2 Scanlines for engineering drawings  *
*                                                         *
***********************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R015"

```
***********************************************************
*                                                         *
*  Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                              *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R015 D001R015.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

  Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
*  Section 3.1.1 Raster data file header records     *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 270,270"

 Check 3: the pel path "270" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,009216"

 Check 5: the dimensions "006848,009216" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R016"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*             4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R016 D001R016.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 270,270"

 Check 3: the pel path "270" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,001024"

 Check 5: the dimensions "006848,001024" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 1024.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
*  Section 6.3.2 Scanlines for engineering drawings     *
*                                                       *
*********************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 1024, does not conform to recommended values.

RASTER FILE : "D001R017"

```
*********************************************************
*                                                       *
*  Section 3.2 Verify CCITT Recommendation T.6 Group    *
*              4 Encoding                                *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R017 D001R017.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
*  Section 3.1.1 Raster data file header records        *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 000,270"

 Check 3: the pel path "000" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,001656"

 Check 5: the dimensions "002208,001656" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 1656.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
* Section 6.3.2 Scanlines for engineering drawings      *
*                                                       *
*********************************************************
```

Check 9: WARNING! the width, 2208, does not conform to recommended values.
Check 10: WARNING! the height, 1656, does not conform to recommended values.

RASTER FILE : "D001R018"

```
*********************************************************
*                                                       *
* Section 3.2 Verify CCITT Recommendation T.6 Group     *
*             4 Encoding                                 *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R018 D001R018.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
* Section 3.1.1 Raster data file header records         *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,003312"

 Check 5: the dimensions "002208,003312" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 3312.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings       *
*                                                        *
**********************************************************
```

Check 9: WARNING! the width, 2208, does not conform to recommended values.
Check 10: the height, 3312, conforms to recommended A3 size values.

_____

RASTER FILE : "D001R019"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                                  *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R019 D001R019.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

_____

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records          *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003312,004680"

 Check 5: the dimensions "003312,004680" are two positive numbers.
 Check 6: the actual image width is 3312.
 Check 7: the actual image height is 4680.

"rdensity: 0200"

 Check 8: the raster image density is 200.

_____

```

```
****
*   *
* Section 6.3.2 Scanlines for engineering drawings   *
*   *
****
```

Check 9: the width, 3312, conforms to recommended A2 size values.
Check 10: the height, 4680, conforms to recommended A2 size values.

---

RASTER FILE : "D001R020"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*             4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R020 D001R020.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004688,006624"

 Check 5: the dimensions "004688,006624" are two positive numbers.
 Check 6: the actual image width is 4688.
 Check 7: the actual image height is 6624.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*************************************************************
*                                                           *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                           *
*************************************************************
```

Check 9: WARNING! the width, 4688, does not conform to recommended values.
Check 10: WARNING! the height, 6624, does not conform to recommended values.

Successful Completion of MIL-R-28002 testing.*

VISUAL ANALYSIS OF IMAGES

*SCALE (SCORE): 0 - 2 = Poor overall scan quality.
  3 - 5 = Fair overall scan quality.
  6 - 8 = Satisfactory overall scan quality.
  9 = Good overall scan quality.
  10 = Excellent overall scan quality.

FILE	SCORE*	NOTES
D001R001	9	Good text. Lines not all continuous. Moderate noise.
D001R002	7	Some corner text unreadable. Lines all continuous. Lots of noise.
D001R003	8	Good text. Good lines. Lots of noise.
D001R004	7	Some unreadable text. Lines not all continuous. Lots of noise.
D001R005	8	Some illegible text. All lines continuous. Lots of noise.
D001R006	10	Excellent. Unknown orientation.
D001R007	9	Clean and crisp lines. Unknown orientation. Noisy.
D001R008	9	Clean and crisp lines. Unknown orientation. Noisy.
D001R009	10	Excellent.
D001R010	10	Excellent.
D001R011	10	Excellent.
D001R012	10	Excellent.
D001R013	10	Excellent.
D001R014	10	Excellent.
D001R015	10	Excellent.
D001R016	10	Excellent. *** Blank image. ***
D001R017	10	Excellent.
D001R018	10	Excellent.
D001R019	10	Excellent.
D001R020	10	Excellent.

PERCENTAGE DECREASE OF FILE SIZE
AFTER SPECKLE REMOVAL

FILE	% drop
D001R001	4
D001R002	12
D001R003	10
D001R004	10
D001R005	10
D001R006	0
D001R007	0
D001R008	0
D001R009	0
D001R010	0
D001R011	0
D001R012	0
D001R013	0
D001R014	0
D001R015	0
D001R016	0
D001R017	0
D001R018	0
D001R019	18
D001R020	0

```
*****************************************************************
*                                                               *
*                  MIL-STD-1840A VALIDATION                     *
*                                                               *
*  The program scans and validates the contents of a magnetic  *
*  tape for compliance to the MIL-STD-1840A standard.          *
*                                                               *
*                                                               *
*****************************************************************


     *********************************************************
     *                                                       *
     *   SCAN THE MIL-STD-1840A CALS TAPE                    *
     *                                                       *
     *********************************************************


 --------------------------------------------------------------

     *********************************************************
     *                                                       *
     *   VERIFY SECTION 5.1 File structure for transfer     *
     *                                                       *
     *********************************************************

 Check 6: There is one declaration file, "D001".
 Check 7: There exists at least one data file.
 Check 8: The declaration file, "D001", does precede the data files.

 --------------------------------------------------------------

     *********************************************************
     *                                                       *
     *              READ THE DECLARATION FILE               *
     *                                                       *
     *********************************************************

 rwmt -r -f 1 D001 -rf d
     15 records read from tape file #1 into "D001".

 --------------------------------------------------------------

     *********************************************************
     *                                                       *
     *      PRINT THE CONTENTS OF THE DECLARATION FILE      *
     *                                                       *
     *********************************************************

 catf D001

 srcsys: NOSL Louisville, Ky.
 srcdocid: MIL-STD-1840A Raster Test Suite
 srcrelid: NONE
 chglvl: ORIGINAL
 dteisu: 19910530
 dstsys: LLNL
 dstdocid: MIL-STD-1840A Raster Test Suite (Modified)
 dstrelid: NONE
 dtetrn: 19910530
 dlvacc: NONE
 filcnt: R15
 ttlcls: Unclassified
 doccls: Unclassified
 doctyp: CTN Raster Reference Images
 docttl: CTN Raster Test Suite

 --------------------------------------------------------------
```

```
**************************************************
*                                                *
*   VERIFY SECTION 5.2.1.3 Declaration File       *
*                                                *
**************************************************
```

Check 9:   the declaration file, "D001", consists of sequential
           variable length records.
Check 10: the records are all of ANSI type D (variable).
Check 11: the maximum record length is 256 bytes.
Check 12: each block is 2048 bytes.

```
**************************************************
*                                                *
*  Section 5.1.1.1 Declaration File Name          *
*                                                *
**************************************************
```

Verifying Declaration File Name, "D001"

Check 13: "D001" is four characters in length.
Check 14: the first character of "D001" is a "D".
Check 15: the next three characters in "D001" are ASCII
          numbers between 001 to 999.

```
**************************************************
*                                                *
*  Section 5.1.1.2 Declaration File Content        *
*                                                *
**************************************************
```

Verifying the Contents of the Declaration File, "D001"

Record 1. - Source system (srcsys:).

"srcsys: NOSL Louisville, Ky."

Check 16: the "srcsys: " record is present.
Check 17: "NOSL Louisville, Ky." follows the "srcsys: " record.

Record 2. - Source system document identifier (srcdocid:).

"srcdocid: MIL-STD-1840A Raster Test Suite"

Check 18: the "srcdocid: " record is present.
Check 19: "MIL-STD-1840A Raster Test Suite" follows the "srcdocid: " record.

Record 3. - Source system related document identifier (srcrelid:).

"srcrelid: NONE"

Check 20: the "srcrelid: " record is present.
Check 21: "NONE" follows the "srcrelid: " record.

Record 4. - Highest revision and change level in the document
            (chglvl:).

"chglvl: ORIGINAL"

Check 22: the "chglvl: " record is present.
Check 23: the word "ORIGINAL" follows the record. No date was
          given.

Record 5. - Date of issue of the latest change to the document (dteisu:).

"dteisu: 19910530"

Check 24: the "dteisu: " record is present.
Check 25: the date, 19910530, is provided in YYYYMMDD format.

Record 6. - Destination system (dstsys:).

"dstsys: LLNL"

Check 26: the "dstsys: " record is present.
Check 27: "LLNL" follows the "dstsys: " record.

Record 7. - Destination system document identifier (dstdocid:).

"dstdocid: MIL-STD-1840A Raster Test Suite (Modified)"

Check 28: the "dstdocid: " record is present.
Check 29: "MIL-STD-1840A Raster Test Suite (Modified)" follows the "dstdocid: " record.

Record 8. - Destination system related document identifier (dstrelid:).

"dstrelid: NONE"

Check 30: the "dstrelid: " record is present.
Check 31: "NONE" follows the "dstrelid: " record.

Record 9. - Date of transfer (dtetrn:).

"dtetrn: 19910530"

Check 32: the "dtetrn: " record is present.
Check 33: the date, 19910530, is provided in YYYYMMDD format.

Record 10. - Delivery accounting (dlvacc:).

"dlvacc: NONE"

Check 34: the "dlvacc: " record is present.
Check 35: "NONE" follows the "dlvacc: " record.

Record 11. - File count (filcnt:).

"filcnt: R15"

Check 36: the "filcnt: " record is present.
Check 37: the letter "R" immediately follows the record.
Check 38: the file count, 15, follows the "R" with no spaces between the count and the character.

Record 12. - Title Security Label (ttlcls:).

"ttlcls: Unclassified"

Check 39: the "ttlcls: " record is present.
Check 40: "Unclassified" follows the "ttlcls: " record.

Record 13. - Document Security Label (doccls:).

"doccls: Unclassified"

Check 41: the "doccls: " record is present.
Check 42: "Unclassified" follows the "doccls: " record.

Record 14. - Document Type (doctyp:).

"doctyp: CTN Raster Reference Images"

 Check 43: the "doctyp: " record is present.
 Check 44: "CTN Raster Reference Images" follows the "doctyp: " record.

Record 15. - Document Title (docttl:).

"docttl: CTN Raster Test Suite"

 Check 45: the "docttl: " record is present.
 Check 46: "CTN Raster Test Suite" follows the "docttl: " record.

```
    ***********************************************************
    *                                                         *
    * Section 5.1.3  Data File Name                           *
    *                                                         *
    ***********************************************************
```

Verifying the Names of the 15 data files

"D001R001"
 Check 47: "D001R001" is eight characters long.
 Check 48: the first four characters of "D001R001" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R001" is the letter "R".
 Check 50: the last three characters of "D001R001" are "001",
           a decimal number from "001" to "999".
 Check 51: "D001R001" is the number 1 data file for the document
           and correctly uses "001".

"D001R002"
 Check 47: "D001R002" is eight characters long.
 Check 48: the first four characters of "D001R002" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R002" is the letter "R".
 Check 50: the last three characters of "D001R002" are "002",
           a decimal number from "001" to "999".
 Check 51: "D001R002" is the number 2 data file for the document
           and correctly uses "002".

"D001R003"
 Check 47: "D001R003" is eight characters long.
 Check 48: the first four characters of "D001R003" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R003" is the letter "R".
 Check 50: the last three characters of "D001R003" are "003",
           a decimal number from "001" to "999".
 Check 51: "D001R003" is the number 3 data file for the document
           and correctly uses "003".

"D001R004"
 Check 47: "D001R004" is eight characters long.
 Check 48: the first four characters of "D001R004" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R004" is the letter "R".
 Check 50: the last three characters of "D001R004" are "004",
           a decimal number from "001" to "999".
 Check 51: "D001R004" is the number 4 data file for the document
           and correctly uses "004".

"D001R005"
 Check 47: "D001R005" is eight characters long.
 Check 48: the first four characters of "D001R005" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R005" is the letter "R".
 Check 50: the last three characters of "D001R005" are "005",
           a decimal number from "001" to "999".
 Check 51: "D001R005" is the number 5 data file for the document
           and correctly uses "005".

"D001R006"
 Check 47: "D001R006" is eight characters long.
 Check 48: the first four characters of "D001R006" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R006" is the letter "R".
 Check 50: the last three characters of "D001R006" are "006",
           a decimal number from "001" to "999".
 Check 51: "D001R006" is the number 6 data file for the document
           and correctly uses "006".

"D001R007"
 Check 47: "D001R007" is eight characters long.
 Check 48: the first four characters of "D001R007" are the same as
   316X   the declaration file name, "D001".
 Check 49: the fifth character of "D001R007" is the letter "R".
 Check 50: the last three characters of "D001R007" are "007",
           a decimal number from "001" to "999".
 Check 51: "D001R007" is the number 7 data file for the document
           and correctly uses "007".

"D001R008"
 Check 47: "D001R008" is eight characters long.
 Check 48: the first four characters of "D001R008" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R008" is the letter "R".
 Check 50: the last three characters of "D001R008" are "008",
           a decimal number from "001" to "999".
 Check 51: "D001R008" is the number 8 data file for the document
           and correctly uses "008".

"D001R009"
 Check 47: "D001R009" is eight characters long.
 Check 48: the first four characters of "D001R009" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R009" is the letter "R".
 Check 50: the last three characters of "D001R009" are "009",
           a decimal number from "001" to "999".
 Check 51: "D001R009" is the number 9 data file for the document
           and correctly uses "009".

"D001R010"
 Check 47: "D001R010" is eight characters long.
 Check 48: the first four characters of "D001R010" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R010" is the letter "R".
 Check 50: the last three characters of "D001R010" are "010",
           a decimal number from "001" to "999".
 Check 51: "D001R010" is the number 10 data file for the document
           and correctly uses "010".

"D001R011"
 Check 47: "D001R011" is eight characters long.
 Check 48: the first four characters of "D001R011" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R011" is the letter "R".
 Check 50: the last three characters of "D001R011" are "011",
           a decimal number from "001" to "999".
 Check 51: "D001R011" is the number 11 data file for the document
           and correctly uses "011".

"D001R012"
 Check 47: "D001R012" is eight characters long.
 Check 48: the first four characters of "D001R012" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R012" is the letter "R".
 Check 50: the last three characters of "D001R012" are "012",
           a decimal number from "001" to "999".
 Check 51: "D001R012" is the number 12 data file for the document
           and correctly uses "012".

"D001R013"
 Check 47: "D001R013" is eight characters long.
 Check 48: the first four characters of "D001R013" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R013" is the letter "R".
 Check 50: the last three characters of "D001R013" are "013",
           a decimal number from "001" to "999".
 Check 51: "D001R013" is the number 13 data file for the document
           and correctly uses "013".

"D001R014"
 Check 47: "D001R014" is eight characters long.
 Check 48: the first four characters of "D001R014" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R014" is the letter "R".
 Check 50: the last three characters of "D001R014" are "014",
           a decimal number from "001" to "999".
 Check 51: "D001R014" is the number 14 data file for the document
           and correctly uses "014".

"D001R015"
 Check 47: "D001R015" is eight characters long.
 Check 48: the first four characters of "D001R015" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R015" is the letter "R".
 Check 50: the last three characters of "D001R015" are "015",
           a decimal number from "001" to "999".
 Check 51: "D001R015" is the number 15 data file for the document
           and correctly uses "015".

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R001 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST01   82918   00010001UMF HN
      001A
dstdocid: CTNTEST01   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 001728,002200
rdensty: 0200
notes:

cals2aud: normal completion

Attachment 10-6

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R001"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST01   82918   00010001UMF HN
        001A"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST01   82918   00010001UMF HN
        001A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST01   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST01   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 001728,002200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "001728,002200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R001" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R001" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R001", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R002 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST02   82918   00010001UMF HN
     002B
dstdocid: CTNTEST02   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002240,003400
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R002"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST02   82918   00010001UMF HN
        002B"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST02   82918   00010001UMF HN
        002B" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST02   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST02   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002240,003400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002240,003400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R002" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R002" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R002", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R003 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST03   82918   00010001UMF HN
     003C
dstdocid: CTNTEST03   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003456,004400
rdensty: 0200
notes:

cals2aud: normal completion

```
**************************************************
*                                                *
* Section 5.1.4.4 Data file header records.      *
*                                                *
**************************************************
```

Verifying the data file header records.

"D001R003"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST03   82918   00010001UMF HN
        003C"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST03   82918   00010001UMF HN
        003C" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST03   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST03   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003456,004400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003456,004400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R003" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R003" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R003", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R004 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST04   82918   00010001UMF HN
      004D
dstdocid: CTNTEST04   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004416,006800
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R004"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST04   82918   00010001UMF HN
        004D"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST04   82918   00010001UMF HN
        004D" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST04   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST04   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

                        Attachment 10-13
```

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004416,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004416,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R004" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R004" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R004", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R005 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST05   82918   00010001UMF HN
       005E
dstdocid: CTNTEST05   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
**************************************************************
*                                                            *
* Section 5.1.4.4 Data file header records.                  *
*                                                            *
**************************************************************
```

Verifying the data file header records.

"D001R005"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST05   82918   00010001UMF HN
       005E"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST05   82918   00010001UMF HN
       005E" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST05   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST05   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R005" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R005" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R005", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R006 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST06   82918   00010001UMF HN
      006A
dstdocid: CTNTEST06   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 000128,000128
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R006"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST06   82918   00010001UMF HN
        006A"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST06   82918   00010001UMF HN
        006A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST06   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST06   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 000128,000128"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "000128,000128" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R006" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R006" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R006", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R007 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST07   82918   00010001UMF HN
      007C
dstdocid: CTNTEST07   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003600,000056
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R007"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST07   82918   00010001UMF HN
        007C"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST07   82918   00010001UMF HN
        007C" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST07   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST07   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Attachment 10-19

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003600,000056"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003600,000056" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

     ****
     *   *
     * Section 5.2.1.6 Raster files   *
     *   *
     ****

 Check 52: all the raster file records in "D001R007" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R007" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R007", with the block
           padded to the appropriate size.

     ****
     *   *
     *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
     *   *
     ****

cals2aud D001R008 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST08   82918   00010001UMF HN
      008C
dstdocid: CTNTEST08   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003600,000056
rdensty: 0200
notes:

cals2aud: normal completion

```
*************************************************
*                                               *
* Section 5.1.4.4 Data file header records.     *
*                                               *
*************************************************
```

Verifying the data file header records.

"D001R008"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST08   82918   00010001UMF HN
        008C"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST08   82918   00010001UMF HN
        008C" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST08   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST08   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003600,000056"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003600,000056" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
    ***********************************************************
    *                                                         *
    * Section 5.2.1.6 Raster files                            *
    *                                                         *
    ***********************************************************
```

 Check 52: all the raster file records in "D001R008" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R008" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R008", with the block
           padded to the appropriate size.

```
    ***********************************************************
    *                                                         *
    *      PRINT THE CONTENTS OF THE DATA HEADER FILES        *
    *                                                         *
    ***********************************************************
```

cals2aud D001R009 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST09   82918   00010001UMF HN
      009B
dstdocid: CTNTEST09   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002480,003616
rdensty: 0200
notes:

cals2aud: normal completion

```
**************************************************
*                                                *
* Section 5.1.4.4 Data file header records.      *
*                                                *
**************************************************
```

Verifying the data file header records.

"D001R009"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST09   82918   00010001UMF HN
       009B"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST09   82918   00010001UMF HN
       009B" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST09   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST09   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002480,003616"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002480,003616" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

     ****
     *   *
     * Section 5.2.1.6 Raster files   *
     *   *
     ****

 Check 52: all the raster file records in "D001R009" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R009" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R009", with the block
           padded to the appropriate size.

     ****
     *   *
     *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
     *   *
     ****

cals2aud D001R010 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST10   82918   00010001UMF HN
        010E
dstdocid: CTNTEST10   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006800,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R010"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST10   82918   00010001UMF HN
      010E"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST10   82918   00010001UMF HN
       010E" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST10   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST10   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006800,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006800,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R010" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R010" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R010", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R011 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST11   82918   00010001UMF HN
     011B
dstdocid: CTNTEST11   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,003312
rdensty: 0200
notes:

cals2aud: normal completion

```
***************************************************
*                                                 *
* Section 5.1.4.4 Data file header records.       *
*                                                 *
***************************************************
```

Verifying the data file header records.

"D001R011"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST11   82918   00010001UMF HN
      011B"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST11   82918   00010001UMF HN
      011B" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST11   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST11   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,003312"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,003312" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R011" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R011" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R011", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES *
    *   *
    ****

cals2aud D001R012 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST12   82918   00010001UMF HN
     012D
dstdocid: CTNTEST12   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004848,006800
rdensty: 0200
notes:

cals2aud: normal completion

```
*****************************************************
*                                                   *
* Section 5.1.4.4 Data file header records.         *
*                                                   *
*****************************************************
```

Verifying the data file header records.

"D001R012"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST12   82918   00010001UMF HN
        012D"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST12   82918   00010001UMF HN
        012D" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST12   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST12   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

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Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004848,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004848,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

    ****
    *   *
    * Section 5.2.1.6 Raster files   *
    *   *
    ****

 Check 52: all the raster file records in "D001R012" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R012" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R012", with the block
           padded to the appropriate size.

    ****
    *   *
    *   PRINT THE CONTENTS OF THE DATA HEADER FILES   *
    *   *
    ****

cals2aud D001R013 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST13   82918   00010001UMF HN
      013A
dstdocid: CTNTEST13   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,001656
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R013"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST13   82918   00010001UMF HN
        013A"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST13   82918   00010001UMF HN
        013A" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST13   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST13   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,001656"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,001656" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
    ********************************************************
    *                                                      *
    * Section 5.2.1.6 Raster files                         *
    *                                                      *
    ********************************************************
```

 Check 52: all the raster file records in "D001R013" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R013" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R013", with the block
           padded to the appropriate size.

```
    ********************************************************
    *                                                      *
    *      PRINT THE CONTENTS OF THE DATA HEADER FILES     *
    *                                                      *
    ********************************************************
```

cals2aud D001R014 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST14   82918   00010001UMF HN
     014D
dstdocid: CTNTEST14   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004688,006624
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R014"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST14   82918   00010001UMF HN
       014D"

 Check 56: the "srcdocid: " record is present.
 Check 57: "   CTNTEST14   82918   00010001UMF HN
       014D" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST14   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: "   CTNTEST14   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004688,006624"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004688,006624" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
    *********************************************************
    *                                                       *
    * Section 5.2.1.6 Raster files                          *
    *                                                       *
    *********************************************************
```

 Check 52: all the raster file records in "D001R014" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R014" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R014", with the block
           padded to the appropriate size.

```
    *********************************************************
    *                                          .            *
    *      PRINT THE CONTENTS OF THE DATA HEADER FILES      *
    *                                                       *
    *********************************************************
```

cals2aud D001R015 -h

cals2aud Conversion Program Version 1.0

srcdocid: CTNTEST15   82918   00010001UMF HN
       015C
dstdocid: CTNTEST15   829
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003312,004680
rdensty: 0200
notes:

cals2aud: normal completion

```
********************************************************
*                                                      *
* Section 5.1.4.4 Data file header records.            *
*                                                      *
********************************************************
```

Verifying the data file header records.

"D001R015"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CTNTEST15   82918   00010001UMF HN
      015C"

 Check 56: the "srcdocid: " record is present.
 Check 57: " CTNTEST15   82918   00010001UMF HN
      015C" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CTNTEST15   829"

 Check 58: the "dstdocid: " record is present.
 Check 59: " CTNTEST15   829" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003312,004680"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003312,004680" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

     ****
     *   *
     * Section 5.2.1.6 Raster files   *
     *   *
     ****

 Check 52: all the raster file records in "D001R015" are written
           with 128 byte ANSI type F fixed-length records.
 Check 53: the header block is of length 2048 bytes.
 Check 54: the second and all succeeding physical blocks of
           "D001R015" contain the image data encoded in raster
           CCITT group 4 code.
 Check 55: all the data header records are written in the
           first physical block of "D001R015", with the block
           padded to the appropriate size.

Successful Completion of MIL-STD-1840A testing.*

```
**************************************************************
*                                                            *
*                  MIL-R-28002 VALIDATION                    *
*                                                            *
*   The raster files are tested for adherence to the         *
*   MIL-R-28002 standard as documented in                    *
*             MIL-R-28002, 20 December 1988                  *
*             Military Specification                         *
*             Raster Graphics Representation in Binary Format,*
*                  Requirements For                          *
*                                                            *
*                                                            *
**************************************************************
```

RASTER FILE : "D001R001"

```
     ********************************************************
     *                                                      *
     * Section 3.2 Verify CCITT Recommendation T.6 Group    *
     *              4 Encoding                               *
     *                                                      *
     ********************************************************
```

Verifying data file content

cals2aud D001R001 D001R001.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
     ********************************************************
     *                                                      *
     * Section 3.1.1 Raster data file header records        *
     *                                                      *
     ********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 001728,002200"

 Check 5: the dimensions "001728,002200" are two positive numbers.
 Check 6: the actual image width is 1728.
 Check 7: the actual image height is 2200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                        *
**********************************************************
```

Check 9: the width, 1728, conforms to recommended A size values.
Check 10: the height, 2200, conforms to recommended A size values.

RASTER FILE : "D001R002"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*             4 Encoding                                  *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R002 D001R002.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records           *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002240,003400"

 Check 5: the dimensions "002240,003400" are two positive numbers.
 Check 6: the actual image width is 2240.
 Check 7: the actual image height is 3400.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************************
*                                                              *
*  Section 6.3.2 Scanlines for engineering drawings            *
*                                                              *
****************************************************************
```

Check 9: the width, 2240, conforms to recommended B,G size values.
Check 10: the height, 3400, conforms to recommended B size values.

RASTER FILE : "D001R003"

```
****************************************************************
*                                                              *
*  Section 3.2 Verify CCITT Recommendation T.6 Group           *
*               4 Encoding                                      *
*                                                              *
****************************************************************
```

Verifying data file content

cals2aud D001R003 D001R003.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

  Check 1: compressed data conforms to CCITT Group IV
           recommendations.

```
****************************************************************
*                                                              *
*  Section 3.1.1 Raster data file header records               *
*                                                              *
****************************************************************
```

"rtype: 1"

  Check 2: data is of type I.

"rorient: 090,270"

  Check 3: the pel path "090" is a permissible value.
  Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003456,004400"

  Check 5: the dimensions "003456,004400" are two positive numbers.
  Check 6: the actual image width is 3456.
  Check 7: the actual image height is 4400.

"rdensity: 0200"

  Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                        *
**********************************************************
```

Check 9: the width, 3456, conforms to recommended C size values.
Check 10: the height, 4400, conforms to recommended C size values.

RASTER FILE : "D001R004"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                                 *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R004 D001R004.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records    *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004416,006800"

 Check 5: the dimensions "004416,006800" are two positive numbers.
 Check 6: the actual image width is 4416.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************

 Check 9: the width, 4416, conforms to recommended D size values.
 Check 10: the height, 6800, conforms to recommended D size values.


---------------------------------------------------------------


RASTER FILE : "D001R005"

    ***********************************************************
    *                                                         *
    * Section 3.2 Verify CCITT Recommendation T.6 Group       *
    *             4 Encoding                                   *
    *                                                         *
    ***********************************************************

Verifying data file content

cals2aud D001R005 D001R005.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.


---------------------------------------------------------------

    ***********************************************************
    *                                                         *
    * Section 3.1.1 Raster data file header records           *
    *                                                         *
    ***********************************************************

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,008800"

 Check 5: the dimensions "006848,008800" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.


---------------------------------------------------------------
```

```
*************************************************************
*                                                           *
* Section 6.3.2 Scanlines for engineering drawings          *
*                                                           *
*************************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R006"

```
*************************************************************
*                                                           *
* Section 3.2 Verify CCITT Recommendation T.6 Group         *
*             4 Encoding                                     *
*                                                           *
*************************************************************
```

Verifying data file content

cals2aud D001R006 D001R006.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*************************************************************
*                                                           *
* Section 3.1.1 Raster data file header records             *
*                                                           *
*************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 000128,000128"

 Check 5: the dimensions "000128,000128" are two positive numbers.
 Check 6: the actual image width is 128.
 Check 7: the actual image height is 128.

"rdensity: 0200"

 Check 8: the raster image density is 200.

Attachment 11-6

```
******************************************************
*                                                    *
* Section 6.3.2 Scanlines for engineering drawings   *
*                                                    *
******************************************************
```

Check 9: WARNING! the width, 128, does not conform to recommended values.
Check 10: WARNING! the height, 128, does not conform to recommended values.

RASTER FILE : "D001R007"

```
******************************************************
*                                                    *
* Section 3.2 Verify CCITT Recommendation T.6 Group  *
*             4 Encoding                              *
*                                                    *
******************************************************
```

Verifying data file content

cals2aud D001R007 D001R007.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
******************************************************
*                                                    *
* Section 3.1.1 Raster data file header records      *
*                                                    *
******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003600,000056"

 Check 5: the dimensions "003600,000056" are two positive numbers.
 Check 6: the actual image width is 3600.
 Check 7: the actual image height is 56.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
*  Section 6.3.2 Scanlines for engineering drawings       *
*                                                         *
***********************************************************
```

Check 9: WARNING! the width, 3600, does not conform to recommended values.
Check 10: WARNING! the height, 56, does not conform to recommended values.

RASTER FILE : "D001R008"

```
***********************************************************
*                                                         *
*  Section 3.2 Verify CCITT Recommendation T.6 Group      *
*              4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R008 D001R008.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
*  Section 3.1.1 Raster data file header records          *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003600,000056"

 Check 5: the dimensions "003600,000056" are two positive numbers.
 Check 6: the actual image width is 3600.
 Check 7: the actual image height is 56.

"rdensity: 0200"

 Check 8: the raster image density is 200.

Attachment 11-8

```
****************************************************
*                                                  *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                  *
****************************************************
```

Check 9: WARNING! the width, 3600, does not conform to recommended values.
Check 10: WARNING! the height, 56, does not conform to recommended values.

RASTER FILE : "D001R009"

```
****************************************************
*                                                  *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                            *
*                                                  *
****************************************************
```

Verifying data file content

cals2aud D001R009 D001R009.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************
*                                                  *
* Section 3.1.1 Raster data file header records    *
*                                                  *
****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002480,003616"

 Check 5: the dimensions "002480,003616" are two positive numbers.
 Check 6: the actual image width is 2480.
 Check 7: the actual image height is 3616.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
*  Section 6.3.2 Scanlines for engineering drawings  *
*                                                         *
***********************************************************
```

Check 9: WARNING! the width, 2480, does not conform to recommended values.
Check 10: WARNING! the height, 3616, does not conform to recommended values.

RASTER FILE : "D001R010"

```
***********************************************************
*                                                         *
*  Section 3.2 Verify CCITT Recommendation T.6 Group  *
*                4 Encoding                               *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R010 D001R010.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
*  Section 3.1.1 Raster data file header records     *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006800,008800"

 Check 5: the dimensions "006800,008800" are two positive numbers.
 Check 6: the actual image width is 6800.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*****************************************************
*                                                   *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                   *
*****************************************************
```

Check 9: WARNING! the width, 6800, does not conform to recommended values.
Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R011"

```
*****************************************************
*                                                   *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                            *
*                                                   *
*****************************************************
```

Verifying data file content

cals2aud D001R011 D001R011.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*****************************************************
*                                                   *
* Section 3.1.1 Raster data file header records     *
*                                                   *
*****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,003312"

 Check 5: the dimensions "002208,003312" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 3312.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
* Section 6.3.2 Scanlines for engineering drawings      *
*                                                       *
*********************************************************
```

Check 9: WARNING! the width, 2208, does not conform to recommended values.
Check 10: the height, 3312, conforms to recommended A3 size values.

RASTER FILE : "D001R012"

```
*********************************************************
*                                                       *
* Section 3.2 Verify CCITT Recommendation T.6 Group     *
*             4 Encoding                                 *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R012 D001R012.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
* Section 3.1.1 Raster data file header records         *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004848,006800"

 Check 5: the dimensions "004848,006800" are two positive numbers.
 Check 6: the actual image width is 4848.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*******************************************************
*                                                     *
* Section 6.3.2 Scanlines for engineering drawings    *
*                                                     *
*******************************************************
```

Check 9: WARNING! the width, 4848, does not conform to recommended values.
Check 10: the height, 6800, conforms to recommended D size values.

RASTER FILE : "D001R013"

```
*******************************************************
*                                                     *
* Section 3.2 Verify CCITT Recommendation T.6 Group   *
*               4 Encoding                             *
*                                                     *
*******************************************************
```

Verifying data file content

cals2aud D001R013 D001R013.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*******************************************************
*                                                     *
* Section 3.1.1 Raster data file header records       *
*                                                     *
*******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,001656"

 Check 5: the dimensions "002208,001656" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 1656.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************
*                                                  *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                  *
****************************************************
```

Check 9: WARNING! the width, 2208, does not conform to recommended values.
Check 10: WARNING! the height, 1656, does not conform to recommended values.

RASTER FILE : "D001R014"

```
****************************************************
*                                                  *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                           *
*                                                  *
****************************************************
```

Verifying data file content

cals2aud D001R014 D001R014.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************
*                                                  *
* Section 3.1.1 Raster data file header records    *
*                                                  *
****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004688,006624"

 Check 5: the dimensions "004688,006624" are two positive numbers.
 Check 6: the actual image width is 4688.
 Check 7: the actual image height is 6624.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************
*                                                  *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                  *
****************************************************
```

Check 9: WARNING! the width, 4688, does not conform to recommended values.
Check 10: WARNING! the height, 6624, does not conform to recommended values.

RASTER FILE : "D001R015"

```
****************************************************
*                                                  *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                           *
*                                                  *
****************************************************
```

Verifying data file content

cals2aud D001R015 D001R015.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************
*                                                  *
* Section 3.1.1 Raster data file header records    *
*                                                  *
****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003312,004680"

 Check 5: the dimensions "003312,004680" are two positive numbers.
 Check 6: the actual image width is 3312.
 Check 7: the actual image height is 4680.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                        *
**********************************************************
```

Check 9: the width, 3312, conforms to recommended A2 size values.
Check 10: the height, 4680, conforms to recommended A2 size values.

Successful Completion of MIL-R-28002 testing.*

VISUAL ANALYSIS OF IMAGES

*SCALE (SCORE): 0 - 2 = Poor overall scan quality.
3 - 5 = Fair overall scan quality.
6 - 8 = Satisfactory overall scan quality.
9 = Good overall scan quality.
10 = Excellent overall scan quality.

FILE	SCORE*	NOTES
D001R001	8	Good text. Lines not all continuous. Slight horizontal skew. Moderate noise.
D001R002	8	Some corner text unreadable. Lines all continuous. Lots of noise.
D001R003	8	Good text. Good lines. Some noise.
D001R004	7	Some unreadable text. Lines not all continuous. Lots of noise.
D001R005	8	Some illegible text. Lines not all continuous. Lots of noise.
D001R006	10	Excellent. Unknown orientation.
D001R007	8	Clean and crisp lines. Noisy.
D001R008	9	Clean and crisp lines. Noisy.
D001R009	10	Excellent.
D001R010	10	Excellent.
D001R011	10	Execllent.
D001R012	10	Excellent.
D001R013	9	Good. Incorrect orientation.
D001R014	10	Excellent.
D001R015	10	Excellent.

PERCENTAGE DECREASE OF FILE SIZE
AFTER SPECKLE REMOVAL

FILE	% drop
D001R001	4
D001R002	11
D001R003	9
D001R004	9
D001R005	10
D001R006	0
D001R007	33
D001R008	0
D001R009	0
D001R010	0
D001R011	0
D001R012	0
D001R013	0
D001R014	1
D001R015	0

Attachment 12-2

```
***********************************************************************
*                                                                     *
*                   MIL-STD-1840A VALIDATION                          *
*                                                                     *
*   The program scans and validates the contents of a magnetic        *
*   tape for compliance to the MIL-STD-1840A standard.                *
*                                                                     *
*                                                                     *
***********************************************************************


       ***********************************************************
       *                                                         *
       *   SCAN THE MIL-STD-1840A CALS TAPE                      *
       *                                                         *
       ***********************************************************


  ------------------------------------------------------------------


       ***********************************************************
       *                                                         *
       *   VERIFY SECTION 5.1 File structure for transfer        *
       *                                                         *
       ***********************************************************

  Check 6: There is one declaration file, "D001".
  Check 7: There exists at least one data file.
  Check 8: The declaration file, "D001", does precede the data files.

  ------------------------------------------------------------------


       ***********************************************************
       *                                                         *
       *                READ THE DECLARATION FILE                *
       *                                                         *
       ***********************************************************

  rwmt -r -f 1 D001 -rf d
       15 records read from tape file #1 into "D001".

  ------------------------------------------------------------------


       ***********************************************************
       *                                                         *
       *   VERIFY SECTION 5.2.1.3 Declaration File               *
       *                                                         *
       ***********************************************************

  Check 9:  the declaration file, "D001", consists of sequential
            variable length records.
  Check 10: the records are all of ANSI type D (variable).
  Check 11: the maximum record length is 256 bytes.
  Check 12: each block is 2048 bytes.

  ------------------------------------------------------------------


       ***********************************************************
       *                                                         *
       *   Section 5.1.1.1 Declaration File Name                 *
       *                                                         *
       ***********************************************************

  Verifying Declaration File Name, "D001"

  Check 13: "D001" is four characters in length.
  Check 14: the first character of "D001" is a "D".
  Check 15: the next three characters in "D001" are ASCII
            numbers between 001 to 999.

  ------------------------------------------------------------------
```

```
*************************************************************
*                                                           *
* Section 5.1.1.2 Declaration File Content                  *
*                                                           *
*************************************************************
```

Verifying the Contents of the Declaration File, "D001"

Record 1. - Source system (srcsys:).

ERROR! the "srcsys: " record is not present.

Record 2. - Source system document identifier (srcdocid:).

ERROR! the "srcdocid: " record is not present.

Record 3. - Source system related document identifier (srcrelid:).

ERROR! the "srcrelid: " record is not present.

Record 4. - Highest revision and change level in the document
            (chglvl:).

ERROR! the "chglvl: " record is not present.
ERROR! Revision, change level, and date must exist or word ORIGINAL only

Record 5. - Date of issue of the latest change to the document
            (dteisu:).

ERROR! the "dteisu: " record is not present.
ERROR! date must be in YYYYMMDD format.

Record 6. - Destination system (dstsys:).

ERROR! the "dstsys: " record is not present.

Record 7. - Destination system document identifier (dstdocid:).

ERROR! the "dstdocid: " record is not present.

Record 8. - Destination system related document identifier
            (dstrelid:).
ERROR! the "dstrelid: " record is not present.

Record 9. - Date of transfer (dtetrn:).

ERROR! the "dtrtrn: " record is not present.
ERROR! date must be in YYYYMMDD format.

Record 10. - Delivery accounting (dlvacc:).

ERROR! the "dlvacc: " record is not present.
ERROR! No string follows the "" record.

Record 11. - File count (filcnt:).

ERROR! the "filcnt: " record is not present.

Record 12. - Title Security Label (ttlcls:).

ERROR! the "ttlcls: " record is not present.

Record 13. - Document Security Label (doccls:).

ERROR! the "doccls: " record is not present.

Record 14. - Document Type (doctyp:).

ERROR! the "doctyp: " record is not present.

Record 15. - Document Title (docttl:).

ERROR! the "docttl: " record is not present.

```
*********************************************************
*                                                       *
* Section 5.1.3  Data File Name                         *
*                                                       *
*********************************************************
```

Verifying the Names of the 21 data files

"D001R001"
 Check 47: "D001R001" is eight characters long.
 Check 48: the first four characters of "D001R001" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R001" is the letter "R".
 Check 50: the last three characters of "D001R001" are "001",
           a decimal number from "001" to "999".
 Check 51: "D001R001" is the number 1 data file for the document
           and correctly uses "001".

"D001R002"
 Check 47: "D001R002" is eight characters long.
 Check 48: the first four characters of "D001R002" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R002" is the letter "R".
 Check 50: the last three characters of "D001R002" are "002",
           a decimal number from "001" to "999".
 Check 51: "D001R002" is the number 2 data file for the document
           and correctly uses "002".

"D001R003"
 Check 47: "D001R003" is eight characters long.
 Check 48: the first four characters of "D001R003" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R003" is the letter "R".
 Check 50: the last three characters of "D001R003" are "003",
           a decimal number from "001" to "999".
 Check 51: "D001R003" is the number 3 data file for the document
           and correctly uses "003".

"D001R004"
 Check 47: "D001R004" is eight characters long.
 Check 48: the first four characters of "D001R004" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R004" is the letter "R".
 Check 50: the last three characters of "D001R004" are "004",
           a decimal number from "001" to "999".
 Check 51: "D001R004" is the number 4 data file for the document
           and correctly uses "004".

"D001R005"
 Check 47: "D001R005" is eight characters long.
 Check 48: the first four characters of "D001R005" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R005" is the letter "R".
 Check 50: the last three characters of "D001R005" are "005",
           a decimal number from "001" to "999".
 Check 51: "D001R005" is the number 5 data file for the document
           and correctly uses "005".
```

"D001R006"
 Check 47: "D001R006" is eight characters long.
 Check 48: the first four characters of "D001R006" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R006" is the letter "R".
 Check 50: the last three characters of "D001R006" are "006",
           a decimal number from "001" to "999".
 Check 51: "D001R006" is the number  6 data file for the document
           and correctly uses "006".

"D001R007"
 Check 47: "D001R007" is eight characters long.
 Check 48: the first four characters of "D001R007" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R007" is the letter "R".
 Check 50: the last three characters of "D001R007" are "007",
           a decimal number from "001" to "999".
 Check 51: "D001R007" is the number  7 data file for the document
           and correctly uses "007".

"D001R008"
 Check 47: "D001R008" is eight characters long.
 Check 48: the first four characters of "D001R008" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R008" is the letter "R".
 Check 50: the last three characters of "D001R008" are "008",
           a decimal number from "001" to "999".
 Check 51: "D001R008" is the number  8 data file for the document
           and correctly uses "008".

"D001R009"
 Check 47: "D001R009" is eight characters long.
 Check 48: the first four characters of "D001R009" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R009" is the letter "R".
 Check 50: the last three characters of "D001R009" are "009",
           a decimal number from "001" to "999".
 Check 51: "D001R009" is the number  9 data file for the document
           and correctly uses "009".

"D001R010"
 Check 47: "D001R010" is eight characters long.
 Check 48: the first four characters of "D001R010" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R010" is the letter "R".
 Check 50: the last three characters of "D001R010" are "010",
           a decimal number from "001" to "999".
 Check 51: "D001R010" is the number 10 data file for the document
           and correctly uses "010".

"D001R011"
 Check 47: "D001R011" is eight characters long.
 Check 48: the first four characters of "D001R011" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R011" is the letter "R".
 Check 50: the last three characters of "D001R011" are "011",
           a decimal number from "001" to "999".
 Check 51: "D001R011" is the number 11 data file for the document
           and correctly uses "011".

"D001R012"
 Check 47: "D001R012" is eight characters long.
 Check 48: the first four characters of "D001R012" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R012" is the letter "R".
 Check 50: the last three characters of "D001R012" are "012",
           a decimal number from "001" to "999".
 Check 51: "D001R012" is the number 12 data file for the document
           and correctly uses "012".

"D001R013"
  Check 47: "D001R013" is eight characters long.
  Check 48: the first four characters of "D001R013" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R013" is the letter "R".
  Check 50: the last three characters of "D001R013" are "013",
            a decimal number from "001" to "999".
  Check 51: "D001R013" is the number 13 data file for the document
            and correctly uses "013".

"D001R014"
  Check 47: "D001R014" is eight characters long.
  Check 48: the first four characters of "D001R014" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R014" is the letter "R".
  Check 50: the last three characters of "D001R014" are "014",
            a decimal number from "001" to "999".
  Check 51: "D001R014" is the number 14 data file for the document
            and correctly uses "014".

"D001R015"
  Check 47: "D001R015" is eight characters long.
  Check 48: the first four characters of "D001R015" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R015" is the letter "R".
  Check 50: the last three characters of "D001R015" are "015",
            a decimal number from "001" to "999".
  Check 51: "D001R015" is the number 15 data file for the document
            and correctly uses "015".

"D001R016"
  Check 47: "D001R016" is eight characters long.
  Check 48: the first four characters of "D001R016" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R016" is the letter "R".
  Check 50: the last three characters of "D001R016" are "016",
            a decimal number from "001" to "999".
  Check 51: "D001R016" is the number 16 data file for the document
            and correctly uses "016".

"D001R017"
  Check 47: "D001R017" is eight characters long.
  Check 48: the first four characters of "D001R017" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R017" is the letter "R".
  Check 50: the last three characters of "D001R017" are "017",
            a decimal number from "001" to "999".
  Check 51: "D001R017" is the number 17 data file for the document
            and correctly uses "017".

"D001R018"
  Check 47: "D001R018" is eight characters long.
  Check 48: the first four characters of "D001R018" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R018" is the letter "R".
  Check 50: the last three characters of "D001R018" are "018",
            a decimal number from "001" to "999".
  Check 51: "D001R018" is the number 18 data file for the document
            and correctly uses "018".

"D001R019"
  Check 47: "D001R019" is eight characters long.
  Check 48: the first four characters of "D001R019" are the same as
            the declaration file name, "D001".
  Check 49: the fifth character of "D001R019" is the letter "R".
  Check 50: the last three characters of "D001R019" are "019",
            a decimal number from "001" to "999".
  Check 51: "D001R019" is the number 19 data file for the document
            and correctly uses "019".

"D001R020"
 Check 47: "D001R020" is eight characters long.
 Check 48: the first four characters of "D001R020" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R020" is the letter "R".
 Check 50: the last three characters of "D001R020" are "020",
           a decimal number from "001" to "999".
 Check 51: "D001R020" is the number 20 data file for the document
           and correctly uses "020".

"D001R021"
 Check 47: "D001R021" is eight characters long.
 Check 48: the first four characters of "D001R021" are the same as
           the declaration file name, "D001".
 Check 49: the fifth character of "D001R021" is the letter "R".
 Check 50: the last three characters of "D001R021" are "021",
           a decimal number from "001" to "999".
 Check 51: "D001R021" is the number 21 data file for the document
           and correctly uses "021".

------------------------------------------------------------

    ***********************************************************
    *                                                         *
    *        PRINT THE CONTENTS OF THE DATA HEADER FILES      *
    *                                                         *
    ***********************************************************

cals2aud D001R001 -h

cals2aud Conversion Program Version 1.0


srcdocid: CT1            18876001  000  BX      001 001UDCETN
dstdocid: CT1            18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 001728,002200
rdensty: 0200
notes:

cals2aud: normal completion

------------------------------------------------------------

    ***********************************************************
    *                                                         *
    * Section 5.1.4.4 Data file header records.               *
    *                                                         *
    ***********************************************************

Verifying the data file header records.

"D001R001"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT1            18876001  000  BX      001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT1            18876001  000  BX      001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT1                18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT1                18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 001728,002200"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "001728,002200" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

------------------------------------------------------------

```
*************************************************************
*                                                           *
* Section 5.2.1.6 Raster files                              *
*                                                           *
*************************************************************

Check 52: all the raster file records in "D001R001" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R001" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R001", with the block
          padded to the appropriate size.

------------------------------------------------------------

      *************************************************************
      *                                                           *
      *      PRINT THE CONTENTS OF THE DATA HEADER FILES          *
      *                                                           *
      *************************************************************

cals2aud D001R002 -h

cals2aud Conversion Program Version 1.0


srcdocid: CT10            18876001  000  BX      001 001UDCETN
dstdocid: CT10            18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006800,008800
rdensty: 0200
notes:

cals2aud: normal completion

------------------------------------------------------------

      *************************************************************
      *                                                           *
      * Section 5.1.4.4 Data file header records.                 *
      *                                                           *
      *************************************************************

Verifying the data file header records.

"D001R002"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT10            18876001  000  BX      001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT10              18876001  000  BX      001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT10            18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT10              18876" follows the "dstdocid: " record.
```

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006800,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006800,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*********************************************************
*                                                       *
* Section 5.2.1.6 Raster files                          *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R002" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R002" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R002", with the block
          padded to the appropriate size.

```
*********************************************************
*                                                       *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES     *
*                                                       *
*********************************************************
```

cals2aud D001R003 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT12   18876001 000 BX   001 001UDCETN
dstdocid: CT12   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004848,006800
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R003"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT12   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT12   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT12   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT12   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004848,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004848,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

Attachment 13-11

```
*********************************************************
*                                                       *
*  Section 5.2.1.6 Raster files                         *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R003" are written
           with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
           "D001R003" contain the image data encoded in raster
           CCITT group 4 code.
Check 55: all the data header records are written in the
           first physical block of "D001R003", with the block
           padded to the appropriate size.

```
*********************************************************
*                                                       *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES     *
*                                                       *
*********************************************************
```

cals2aud D001R004 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT14   18876001 000 BX   001 001UDCETN
dstdocid: CT14   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
*  Section 5.1.4.4 Data file header records.            *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R004"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT14   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT14   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT14   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT14   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***************************************************
*                                                 *
* Section 5.2.1.6 Raster files                    *
*                                                 *
***************************************************
```

Check 52: all the raster file records in "D001R004" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R004" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R004", with the block
          padded to the appropriate size.

```
***************************************************
*                                                 *
*    PRINT THE CONTENTS OF THE DATA HEADER FILES  *
*                                                 *
***************************************************
```

cals2aud D001R005 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT14   18876001 000 BX   001 001UDCETN
dstdocid: CT14   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
***************************************************
*                                                 *
* Section 5.1.4.4 Data file header records.       *
*                                                 *
***************************************************
```

Verifying the data file header records.

"D001R005"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT14   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT14   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT14   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT14   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
 ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***********************************************************
*                                                         *
*  Section 5.2.1.6 Raster files                           *
*                                                         *
***********************************************************
```

Check 52: all the raster file records in "D001R005" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R005" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R005", with the block
          padded to the appropriate size.

```
***********************************************************
*                                                         *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES        *
*                                                         *
***********************************************************
```

cals2aud D001R006 -h

cals2aud Conversion Program Version 1.0

srcdocid: pwd
dstdocid: CT14   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
*  Section 5.1.4.4 Data file header records.              *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R006"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: pwd"

 Check 56: the "srcdocid: " record is present.
 Check 57: "pwd" follows the "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT14   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT14   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
************************************************************
*                                                          *
* Section 5.2.1.6 Raster files                             *
*                                                          *
************************************************************
```

Check 52: all the raster file records in "D001R006" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R006" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R006", with the block
          padded to the appropriate size.

```
************************************************************
*                                                          *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES         *
*                                                          *
************************************************************
```

cals2aud D001R007 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT15   18876001 000 BX   001 001UDCETN
dstdocid: CT15   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,001656
rdensty: 0200
notes:

cals2aud: normal completion

```
************************************************************
*                                                          *
* Section 5.1.4.4 Data file header records.                *
*                                                          *
************************************************************
```

Verifying the data file header records.

"D001R007"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT15   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT15   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT15   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT15   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,001656"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,001656" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***********************************************************
*                                                         *
* Section 5.2.1.6 Raster files                            *
*                                                         *
***********************************************************
```

Check 52: all the raster file records in "D001R007" are written
         with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
         "D001R007" contain the image data encoded in raster
         CCITT group 4 code.
Check 55: all the data header records are written in the
         first physical block of "D001R007", with the block
         padded to the appropriate size.

```
***********************************************************
*                                                         *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES        *
*                                                         *
***********************************************************
```

cals2aud D001R008 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT16   18876001 000 BX   001 001UDCETN
dstdocid: CT16   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002208,003312
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R008"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT16   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT16   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT16   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT16   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002208,003312"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002208,003312" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*********************************************************
*                                                       *
* Section 5.2.1.6 Raster files                          *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R008" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R008" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R008", with the block
          padded to the appropriate size.

```
*********************************************************
*                                                       *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES      *
*                                                       *
*********************************************************
```

cals2aud D001R009 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT17   18876001 000 BX   001 001UDCETN
dstdocid: CT17   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003312,004680
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R009"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT17   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT17   18876001 000 BX   001 001UDCETN" follows the
 "srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT17   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT17   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003312,004680"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003312,004680" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*********************************************************
*                                                       *
* Section 5.2.1.6 Raster files                          *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R009" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R009" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R009", with the block
          padded to the appropriate size.

```
*********************************************************
*                                                       *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES    *
*                                                       *
*********************************************************
```

cals2aud D001R010 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT18   18876001 000 BX   001 001UDCETN
dstdocid: CT18   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004688,006624
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R010"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT18   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT18   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT18   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT18   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004688,006624"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004688,006624" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
******************************************************
*                                                    *
* Section 5.2.1.6 Raster files                       *
*                                                    *
******************************************************
```

Check 52: all the raster file records in "D001R010" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R010" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R010", with the block
          padded to the appropriate size.

```
******************************************************
*                                                    *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES   *
*                                                    *
******************************************************
```

cals2aud D001R011 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT2   18876001 000 BX   001 001UDCETN
dstdocid: CT2   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 002240,003400
rdensty: 0200
notes:

cals2aud: normal completion

```
******************************************************
*                                                    *
* Section 5.1.4.4 Data file header records.          *
*                                                    *
******************************************************
```

Verifying the data file header records.

"D001R011"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT2   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT2   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT2   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT2   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 002240,003400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "002240,003400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*******************************************************
*                                                     *
*  Section 5.2.1.6 Raster files                       *
*                                                     *
*******************************************************
```

Check 52: all the raster file records in "D001R011" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R011" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R011", with the block
          padded to the appropriate size.

```
*******************************************************
*                                                     *
*     PRINT THE CONTENTS OF THE DATA HEADER FILES     *
*                                                     *
*******************************************************
```

cals2aud D001R012 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT3   18876001 000 BX   001 001UDCETN
dstdocid: CT3   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003456,004400
rdensty: 0200
notes:

cals2aud: normal completion

```
*******************************************************
*                                                     *
*  Section 5.1.4.4 Data file header records.          *
*                                                     *
*******************************************************
```

Verifying the data file header records.

"D001R012"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT3   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT3   18876001   000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT3   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT3   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003456,004400"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003456,004400" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*****************************************************
*                                                   *
* Section 5.2.1.6 Raster files                      *
*                                                   *
*****************************************************

Check 52: all the raster file records in "D001R012" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R012" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R012", with the block
          padded to the appropriate size.

-----------------------------------------------------------

*****************************************************
*                                                   *
*     PRINT THE CONTENTS OF THE DATA HEADER FILES   *
*                                                   *
*****************************************************

cals2aud D001R013 -h

cals2aud Conversion Program Version 1.0


srcdocid: CT4          18876001  000  BX      001 001UDCETN
dstdocid: CT4          18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004416,006800
rdensty: 0200
notes:

cals2aud: normal completion

-----------------------------------------------------------

*****************************************************
*                                                   *
* Section 5.1.4.4 Data file header records.         *
*                                                   *
*****************************************************

Verifying the data file header records.

"D001R013"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT4          18876001  000  BX      001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT4          18876001  000  BX      001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT4          18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT4          18876" follows the "dstdocid: " record.
```

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 004416,006800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "004416,006800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**********************************************************
*                                                        *
* Section 5.2.1.6 Raster files                           *
*                                                        *
**********************************************************
```

Check 52: all the raster file records in "D001R013" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R013" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R013", with the block
          padded to the appropriate size.

```
**********************************************************
*                                                        *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                        *
**********************************************************
```

cals2aud D001R014 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT5   18876001 000 BX   001 001UDCETN
dstdocid: CT5   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006848,008800
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R014"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT5   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT5   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT5   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT5   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006848,008800"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006848,008800" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*********************************************************
*                                                       *
* Section 5.2.1.6 Raster files                          *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R014" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R014" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R014", with the block
          padded to the appropriate size.

```
*********************************************************
*                                                       *
*     PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                       *
*********************************************************
```

cals2aud D001R015 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT6   18876001 000 BX   001 001UDCETN
dstdocid: CT6   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 000128,000128
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
* Section 5.1.4.4 Data file header records.             *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R015"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT6   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT6   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT6   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT6   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 000128,000128"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "000128,000128" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
****************************************************************
*                                                              *
*  Section 5.2.1.6 Raster files                                *
*                                                              *
****************************************************************
```

Check 52: all the raster file records in "D001R015" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R015" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R015", with the block
          padded to the appropriate size.

```
****************************************************************
*                                                              *
*       PRINT THE CONTENTS OF THE DATA HEADER FILES            *
*                                                              *
****************************************************************
```

cals2aud D001R016 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT7   18876001 000 BX   001 001UDCETN
dstdocid: CT7   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003600,000056
rdensty: 0200
notes:

cals2aud: normal completion

```
****************************************************************
*                                                              *
*  Section 5.1.4.4 Data file header records.                   *
*                                                              *
****************************************************************
```

Verifying the data file header records.

"D001R016"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT7   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT7   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT7   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT7   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003600,000056"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003600,000056" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
******************************************************
*                                                    *
*  Section 5.2.1.6 Raster files                      *
*                                                    *
******************************************************
```

Check 52: all the raster file records in "D001R016" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R016" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R016", with the block
          padded to the appropriate size.

```
******************************************************
*                                                    *
*     PRINT THE CONTENTS OF THE DATA HEADER FILES    *
*                                                    *
******************************************************
```

cals2aud D001R017 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT8   18876001 000 BX   001 001UDCETN
dstdocid: CT8   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003600,000056
rdensty: 0200
notes:

cals2aud: normal completion

```
******************************************************
*                                                    *
*  Section 5.1.4.4 Data file header records.         *
*                                                    *
******************************************************
```

Verifying the data file header records.

"D001R017"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT8   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT8   18876001 000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT8   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT8   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003600,000056"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003600,000056" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*************************************************************
*                                                          *
* Section 5.2.1.6 Raster files                             *
*                                                          *
*************************************************************
```

Check 52: all the raster file records in "D001R017" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R017" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R017", with the block
          padded to the appropriate size.

```
*************************************************************
*                                                          *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES          *
*                                                          *
*************************************************************
```

cals2aud D001R018 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT9   18876001 000 BX   001 001UDCETN
dstdocid: CT9   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 007040,009216
rdensty: 0200
notes:

cals2aud: normal completion

```
*************************************************************
*                                                          *
* Section 5.1.4.4 Data file header records.                *
*                                                          *
*************************************************************
```

Verifying the data file header records.

"D001R018"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT9   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT9   18876001   000 BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT9   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT9   18876" follows the "dstdocid: " record.

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Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 007040,009216"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "007040,009216" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
**********************************************************
*                                                        *
* Section 5.2.1.6 Raster files                           *
*                                                        *
**********************************************************
```

Check 52: all the raster file records in "D001R018" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R018" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R018", with the block
          padded to the appropriate size.

```
**********************************************************
*                                                        *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES       *
*                                                        *
**********************************************************
```

cals2aud D001R019 -h

cals2aud Conversion Program Version 1.0

srcdocid: CT9   18876001 000 BX   001 001UDCETN
dstdocid: CT9   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 007040,000512
rdensty: 0200
notes:

cals2aud: normal completion

```
**********************************************************
*                                                        *
* Section 5.1.4.4 Data file header records.              *
*                                                        *
**********************************************************
```

Verifying the data file header records.

"D001R019"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: CT9   18876001 000 BX   001 001UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "CT9   18876001   000   BX   001 001UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: CT9   .   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "CT9   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 007040,000512"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "007040,000512" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
*********************************************************
*                                                       *
*  Section 5.2.1.6 Raster files                         *
*                                                       *
*********************************************************
```

Check 52: all the raster file records in "D001R019" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R019" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R019", with the block
          padded to the appropriate size.

```
*********************************************************
*                                                       *
*        PRINT THE CONTENTS OF THE DATA HEADER FILES     *
*                                                       *
*********************************************************
```

cals2aud D001R020 -h

cals2aud Conversion Program Version 1.0

srcdocid: 13218072   18876001 003 WE   001 003UDCETN
dstdocid: 13218072   18876
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 006832,008912
rdensty: 0200
notes:

cals2aud: normal completion

```
*********************************************************
*                                                       *
*  Section 5.1.4.4 Data file header records.            *
*                                                       *
*********************************************************
```

Verifying the data file header records.

"D001R020"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: 13218072   18876001 003 WE   001 003UDCETN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "13218072   18876001 003 WE   001 003UDCETN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: 13218072   18876"

 Check 58: the "dstdocid: " record is present.
 Check 59: "13218072   18876" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 006832,008912"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "006832,008912" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***********************************************************
*                                                         *
* Section 5.2.1.6 Raster files                            *
*                                                         *
***********************************************************
```

Check 52: all the raster file records in "D001R020" are written
         with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
         "D001R020" contain the image data encoded in raster
         CCITT group 4 code.
Check 55: all the data header records are written in the
         first physical block of "D001R020", with the block
         padded to the appropriate size.

```
***********************************************************
*                                                         *
*      PRINT THE CONTENTS OF THE DATA HEADER FILES        *
*                                                         *
***********************************************************
```

cals2aud D001R021 -h

cals2aud Conversion Program Version 1.0

srcdocid: 8694527   19207001 D001   001 001UDMCTN
dstdocid: 8694527   19207
txtfilid: NONE
figid: NONE
srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 003424,004362
rdensty: 0200
notes:

cals2aud: normal completion

```
***********************************************************
*                                                         *
* Section 5.1.4.4 Data file header records.               *
*                                                         *
***********************************************************
```

Verifying the data file header records.

"D001R021"

Record 1. - Source system document identifier (srcdocid:).

"srcdocid: 8694527   19207001 D001   001 001UDMCTN"

 Check 56: the "srcdocid: " record is present.
 Check 57: "8694527   19207001 D001   001 001UDMCTN" follows the
"srcdocid: " record.

Record 2. - Destination system document identifier (dstdocid:).

"dstdocid: 8694527   19207"

 Check 58: the "dstdocid: " record is present.
 Check 59: "8694527   19207" follows the "dstdocid: " record.

Record 3. - Text file identifier (txtfilid:).

"txtfilid: NONE"

 Check 60: the "txtfilid: " record is present.
 Check 61: "NONE" follows the "txtfilid: " record.

Record 4. - Figure identifier (figid:).

"figid: NONE"

 Check 62: the "figid: " record is present.
 Check 63: "NONE" follows the "figid: " record.

Record 5. - Source system graphics filename (srcgph:).

"srcgph: NONE"

 Check 64: the "srcgph: " record is present.
 Check 65: "NONE" follows the "srcgph: " record.

Record 6. - Data file security label (doccls:).

"doccls: UNCLASSIFIED"

 Check 66: the "doccls: " record is present.
 Check 67: "UNCLASSIFIED" follows the "doccls: " record.

Record 7. - Raster data type (rtype:).

"rtype: 1"

 Check 68: the "rtype: " record is present.
 Check 69: "1" follows the "rtype: " record.

Record 8. - Raster image orientation (rorient:).

"rorient: 090,270"

 Check 70: the "rorient: " record is present.
 Check 71: "090,270" follows the "rorient: " record.

Record 9. - Raster image pel count (rpelcnt:).

"rpelcnt: 003424,004362"

 Check 72: the "rpelcnt: " record is present.
 Check 73: "003424,004362" follows the "rpelcnt: " record.

Record 10. - Raster image density (rdensty:).

"rdensty: 0200"

 Check 74: the "rdensty: " record is present.
 Check 75: "0200" follows the "rdensty: " record.

Record 11. - Notes (notes:).

"notes:"

 Check 76: the "notes: " record is present.
ERROR! MIL-STD-1840A specifies the upper case string "NONE".

```
***************************************************************
*                                                             *
* Section 5.2.1.6 Raster files                                *
*                                                             *
***************************************************************
```

Check 52: all the raster file records in "D001R021" are written
          with 128 byte ANSI type F fixed-length records.
Check 53: the header block is of length 2048 bytes.
Check 54: the second and all succeeding physical blocks of
          "D001R021" contain the image data encoded in raster
          CCITT group 4 code.
Check 55: all the data header records are written in the
          first physical block of "D001R021", with the block
          padded to the appropriate size.

Successful Completion of MIL-STD-1840A testing.*

```
**********************************************************************
*                                                                    *
*                    MIL-R-28002 VALIDATION                          *
*                                                                    *
*   The raster files are tested for adherence to the                 *
*   MIL-R-28002 standard as documented in                            *
*            MIL-R-28002, 20 December 1988                            *
*            Military Specification                                   *
*            Raster Graphics Representation in Binary Format,         *
*                 Requirements For                                    *
*                                                                    *
*                                                                    *
**********************************************************************
```

RASTER FILE : "D001R001"

```
    ***********************************************************
    *                                                         *
    * Section 3.2 Verify CCITT Recommendation T.6 Group       *
    *             4 Encoding                                   *
    *                                                         *
    ***********************************************************
```

Verifying data file content

cals2aud D001R001 D001R001.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ***********************************************************
    *                                                         *
    * Section 3.1.1 Raster data file header records           *
    *                                                         *
    ***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 001728,002200"

 Check 5: the dimensions "001728,002200" are two positive numbers.
 Check 6: the actual image width is 1728.
 Check 7: the actual image height is 2200.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************************
*                                                              *
*  Section 6.3.2 Scanlines for engineering drawings            *
*                                                              *
****************************************************************
```

Check 9: the width, 1728, conforms to recommended A size values.
Check 10: the height, 2200, conforms to recommended A size values.

RASTER FILE : "D001R002"

```
****************************************************************
*                                                              *
*  Section 3.2 Verify CCITT Recommendation T.6 Group           *
*              4 Encoding                                       *
*                                                              *
****************************************************************
```

Verifying data file content

cals2aud D001R002 D001R002.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************************
*                                                              *
*  Section 3.1.1 Raster data file header records               *
*                                                              *
****************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006800,008800"

 Check 5: the dimensions "006800,008800" are two positive numbers.
 Check 6: the actual image width is 6800.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
* Section 6.3.2 Scanlines for engineering drawings      *
*                                                       *
*********************************************************
```

Check 9: WARNING! the width, 6800, does not conform to recommended values.
Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R003"

```
*********************************************************
*                                                       *
* Section 3.2 Verify CCITT Recommendation T.6 Group     *
*             4 Encoding                                 *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R003 D001R003.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
* Section 3.1.1 Raster data file header records         *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004848,006800"

 Check 5: the dimensions "004848,006800" are two positive numbers.
 Check 6: the actual image width is 4848.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**************************************************
*                                                *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                *
**************************************************
```

Check 9: WARNING! the width, 4848, does not conform to recommended values.
Check 10: the height, 6800, conforms to recommended D size values.

RASTER FILE : "D001R004"

```
**************************************************
*                                                *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*            4 Encoding                           *
*                                                *
**************************************************
```

Verifying data file content

cals2aud D001R004 D001R004.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**************************************************
*                                                *
* Section 3.1.1 Raster data file header records  *
*                                                *
**************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,009216"

 Check 5: the dimensions "006848,009216" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
*  Section 6.3.2 Scanlines for engineering drawings     *
*                                                       *
*********************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R005"

```
*********************************************************
*                                                       *
*  Section 3.2 Verify CCITT Recommendation T.6 Group    *
*              4 Encoding                                *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R005 D001R005.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
*  Section 3.1.1 Raster data file header records        *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,009216"

 Check 5: the dimensions "006848,009216" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*******************************************************
*                                                     *
* Section 6.3.2 Scanlines for engineering drawings    *
*                                                     *
*******************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R006"

```
*******************************************************
*                                                     *
* Section 3.2 Verify CCITT Recommendation T.6 Group   *
*              4 Encoding                              *
*                                                     *
*******************************************************
```

Verifying data file content

cals2aud D001R006 D001R006.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*******************************************************
*                                                     *
* Section 3.1.1 Raster data file header records       *
*                                                     *
*******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,009216"

 Check 5: the dimensions "006848,009216" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*******************************************************
*                                                     *
* Section 6.3.2 Scanlines for engineering drawings    *
*                                                     *
*******************************************************
```

Check 9: the width, 6848, conforms to recommended E,J size values.
Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R007"

```
*******************************************************
*                                                     *
* Section 3.2  Verify CCITT Recommendation T.6 Group  *
*              4 Encoding                              *
*                                                     *
*******************************************************
```

Verifying data file content

cals2aud D001R007 D001R007.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

Check 1: compressed data conforms to CCITT Group IV
         recommendations.

```
*******************************************************
*                                                     *
* Section 3.1.1 Raster data file header records       *
*                                                     *
*******************************************************
```

"rtype: 1"

Check 2: data is of type I.

"rorient: 090,270"

Check 3: the pel path "090" is a permissible value.
Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,001656"

Check 5: the dimensions "002208,001656" are two positive numbers.
Check 6: the actual image width is 2208.
Check 7: the actual image height is 1656.

"rdensity: 0200"

Check 8: the raster image density is 200.

```
***************************************************
*                                                 *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                 *
***************************************************
```

Check 9: **WARNING!** the width, 2208, does not conform to recommended values.
Check 10: **WARNING!** the height, 1656, does not conform to recommended values.

RASTER FILE : "D001R008"

```
***************************************************
*                                                 *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                           *
*                                                 *
***************************************************
```

Verifying data file content

cals2aud D001R008 D001R008.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***************************************************
*                                                 *
* Section 3.1.1 Raster data file header records   *
*                                                 *
***************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002208,003312"

 Check 5: the dimensions "002208,003312" are two positive numbers.
 Check 6: the actual image width is 2208.
 Check 7: the actual image height is 3312.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
****************************************************
*                                                  *
*  Section 6.3.2 Scanlines for engineering drawings *
*                                                  *
****************************************************
```

Check 9: WARNING! the width, 2208, does not conform to recommended values.
Check 10: the height, 3312, conforms to recommended A3 size values.

RASTER FILE : "D001R009"

```
****************************************************
*                                                  *
*  Section 3.2 Verify CCITT Recommendation T.6 Group *
*             4 Encoding                            *
*                                                  *
****************************************************
```

Verifying data file content

cals2aud D001R009 D001R009.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
****************************************************
*                                                  *
*  Section 3.1.1 Raster data file header records    *
*                                                  *
****************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003312,004680"

 Check 5: the dimensions "003312,004680" are two positive numbers.
 Check 6: the actual image width is 3312.
 Check 7: the actual image height is 4680.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
* Section 6.3.2 Scanlines for engineering drawings      *
*                                                       *
*********************************************************
```

Check 9: the width, 3312, conforms to recommended A2 size values.
Check 10: the height, 4680, conforms to recommended A2 size values.

RASTER FILE : "D001R010"   ✓

```
*********************************************************
*                                                       *
* Section 3.2 Verify CCITT Recommendation T.6 Group     *
*             4 Encoding                                 *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R010 D001R010.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
* Section 3.1.1 Raster data file header records         *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004688,006624"

 Check 5: the dimensions "004688,006624" are two positive numbers.
 Check 6: the actual image width is 4688.
 Check 7: the actual image height is 6624.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
* Section 6.3.2 Scanlines for engineering drawings      *
*                                                       *
*********************************************************
```

 Check 9: WARNING! the width, 4688, does not conform to recommended values.
 Check 10: WARNING! the height, 6624, does not conform to recommended values.

RASTER FILE : "D001R011"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                                 *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R011 D001R011.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records          *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 002240,003400"

 Check 5: the dimensions "002240,003400" are two positive numbers.
 Check 6: the actual image width is 2240.
 Check 7: the actual image height is 3400.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings *
*                                                        *
**********************************************************
```

 Check 9: the width, 2240, conforms to recommended B,G size values.
 Check 10: the height, 3400, conforms to recommended B size values.

RASTER FILE : "D001R012"

```
    *********************************************************
    *                                                       *
    * Section 3.2 Verify CCITT Recommendation T.6 Group     *
    *              4 Encoding                                *
    *                                                       *
    *********************************************************
```

Verifying data file content

cals2aud D001R012 D001R012.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

  Check 1: compressed data conforms to CCITT Group IV
           recommendations.

```
    *********************************************************
    *                                                       *
    * Section 3.1.1 Raster data file header records         *
    *                                                       *
    *********************************************************
```

"rtype: 1"

  Check 2: data is of type I.

"rorient: 090,270"

  Check 3: the pel path "090" is a permissible value.
  Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003456,004400"

  Check 5: the dimensions "003456,004400" are two positive numbers.
  Check 6: the actual image width is 3456.
  Check 7: the actual image height is 4400.

"rdensity: 0200"

  Check 8: the raster image density is 200.

```
    *********************************************************
    *                                                       *
    * Section 6.3.2 Scanlines for engineering drawings      *
    *                                                       *
    *********************************************************
```

  Check 9: the width, 3456, conforms to recommended C size values.
  Check 10: the height, 4400, conforms to recommended C size values.

RASTER FILE : "D001R013"

```
*********************************************************
*                                                       *
* Section 3.2 Verify CCITT Recommendation T.6 Group     *
*              4 Encoding                                *
*                                                       *
*********************************************************
```

Verifying data file content

cals2aud D001R013 D001R013.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
*********************************************************
*                                                       *
* Section 3.1.1 Raster data file header records         *
*                                                       *
*********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 004416,006800"

 Check 5: the dimensions "004416,006800" are two positive numbers.
 Check 6: the actual image width is 4416.
 Check 7: the actual image height is 6800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
*********************************************************
*                                                       *
* Section 6.3.2 Scanlines for engineering drawings      *
*                                                       *
*********************************************************
```

 Check 9: the width, 4416, conforms to recommended D size values.
 Check 10: the height, 6800, conforms to recommended D size values.

RASTER FILE : "D001R014"

```
    ****************************************************************
    *                                                              *
    * Section 3.2 Verify CCITT Recommendation T.6 Group *
    *             4 Encoding                                        *
    *                                                              *
    ****************************************************************
```

Verifying data file content

cals2aud D001R014 D001R014.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ****************************************************************
    *                                                              *
    * Section 3.1.1 Raster data file header records      *
    *                                                              *
    ****************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006848,008800"

 Check 5: the dimensions "006848,008800" are two positive numbers.
 Check 6: the actual image width is 6848.
 Check 7: the actual image height is 8800.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ****************************************************************
    *                                                              *
    * Section 6.3.2 Scanlines for engineering drawings  *
    *                                                              *
    ****************************************************************
```

 Check 9: the width, 6848, conforms to recommended E,J size values.
 Check 10: the height, 8800, conforms to recommended E size values.

RASTER FILE : "D001R015"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*              4 Encoding                                 *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R015 D001R015.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records      *
*                                                        *
**********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 000128,000128"

 Check 5: the dimensions "000128,000128" are two positive numbers.
 Check 6: the actual image width is 128.
 Check 7: the actual image height is 128.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                        *
**********************************************************
```

 Check 9: WARNING! the width, 128, does not conform to recommended values.
 Check 10: WARNING! the height, 128, does not conform to recommended values.

RASTER FILE : "D001R016"

```
***************************************************************
*                                                             *
*  Section 3.2 Verify CCITT Recommendation T.6 Group          *
*             4 Encoding                                      *
*                                                             *
***************************************************************
```

Verifying data file content

cals2aud D001R016 D001R016.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***************************************************************
*                                                             *
*  Section 3.1.1 Raster data file header records              *
*                                                             *
***************************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003600,000056"

 Check 5: the dimensions "003600,000056" are two positive numbers.
 Check 6: the actual image width is 3600.
 Check 7: the actual image height is 56.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***************************************************************
*                                                             *
*  Section 6.3.2 Scanlines for engineering drawings           *
*                                                             *
***************************************************************
```

 Check 9: WARNING! the width, 3600, does not conform to recommended values.
 Check 10: WARNING! the height, 56, does not conform to recommended values.

RASTER FILE : "D001R017"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*             4 Encoding                                   *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R017 D001R017.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003600,000056"

 Check 5: the dimensions "003600,000056" are two positive numbers.
 Check 6: the actual image width is 3600.
 Check 7: the actual image height is 56.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

 Check 9: WARNING! the width, 3600, does not conform to recommended values.
 Check 10: WARNING! the height, 56, does not conform to recommended values.

RASTER FILE : "D001R018"

```
    ******************************************************
    *                                                    *
    * Section 3.2 Verify CCITT Recommendation T.6 Group  *
    *             4 Encoding                              *
    *                                                    *
    ******************************************************
```

Verifying data file content

cals2aud D001R018 D001R018.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
    ******************************************************
    *                                                    *
    * Section 3.1.1 Raster data file header records      *
    *                                                    *
    ******************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 007040,009216"

 Check 5: the dimensions "007040,009216" are two positive numbers.
 Check 6: the actual image width is 7040.
 Check 7: the actual image height is 9216.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
    ******************************************************
    *                                                    *
    * Section 6.3.2 Scanlines for engineering drawings   *
    *                                                    *
    ******************************************************
```

 Check 9: WARNING! the width, 7040, does not conform to recommended values.
 Check 10: WARNING! the height, 9216, does not conform to recommended values.

RASTER FILE : "D001R019"

```
**********************************************************
*                                                        *
* Section 3.2 Verify CCITT Recommendation T.6 Group *
*                4 Encoding                               *
*                                                        *
**********************************************************
```

Verifying data file content

cals2aud D001R019 D001R019.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

Check 1: compressed data conforms to CCITT Group IV
       recommendations.

```
**********************************************************
*                                                        *
* Section 3.1.1 Raster data file header records     *
*                                                        *
**********************************************************
```

"rtype: 1"

Check 2: data is of type I.

"rorient: 090,270"

Check 3: the pel path "090" is a permissible value.
Check 4: the line progression "270" is a permissible value.

"rpelcnt: 007040,000512"

Check 5: the dimensions "007040,000512" are two positive numbers.
Check 6: the actual image width is 7040.
Check 7: the actual image height is 512.

"rdensity: 0200"

Check 8: the raster image density is 200.

```
**********************************************************
*                                                        *
* Section 6.3.2 Scanlines for engineering drawings  *
*                                                        *
**********************************************************
```

Check 9: WARNING! the width, 7040, does not conform to recommended values.
Check 10: WARNING! the height, 512, does not conform to recommended values.

RASTER FILE : "D001R020"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*            4 Encoding                                    *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R020 D001R020.PIC   6

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

 Check 1: compressed data conforms to CCITT Group IV
          recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

 Check 2: data is of type I.

"rorient: 090,270"

 Check 3: the pel path "090" is a permissible value.
 Check 4: the line progression "270" is a permissible value.

"rpelcnt: 006832,008912"

 Check 5: the dimensions "006832,008912" are two positive numbers.
 Check 6: the actual image width is 6832.
 Check 7: the actual image height is 8912.

"rdensity: 0200"

 Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

 Check 9: WARNING! the width, 6832, does not conform to recommended values.
 Check 10: WARNING! the height, 8912, does not conform to recommended values.

RASTER FILE : "D001R021"

```
***********************************************************
*                                                         *
* Section 3.2 Verify CCITT Recommendation T.6 Group       *
*              4 Encoding                                  *
*                                                         *
***********************************************************
```

Verifying data file content

cals2aud D001R021 D001R021.PIC

cals2aud Conversion Program Version 1.0

cals2aud: normal completion

Check 1: compressed data conforms to CCITT Group IV
         recommendations.

```
***********************************************************
*                                                         *
* Section 3.1.1 Raster data file header records           *
*                                                         *
***********************************************************
```

"rtype: 1"

Check 2: data is of type I.

"rorient: 090,270"

Check 3: the pel path "090" is a permissible value.
Check 4: the line progression "270" is a permissible value.

"rpelcnt: 003424,004362"

Check 5: the dimensions "003424,004362" are two positive numbers.
Check 6: the actual image width is 3424.
Check 7: the actual image height is 4362.

"rdensity: 0200"

Check 8: the raster image density is 200.

```
***********************************************************
*                                                         *
* Section 6.3.2 Scanlines for engineering drawings        *
*                                                         *
***********************************************************
```

Check 9: WARNING! the width, 3424, does not conform to recommended values.
Check 10: WARNING! the height, 4362, does not conform to recommended values.

Successful Completion of MIL-R-28002 testing.*

VISUAL ANALYSIS OF IMAGES

*SCALE (SCORE): 0 - 2 = Poor overall scan quality.
3 - 5 = Fair overall scan quality.
6 - 8 = Satisfactory overall scan quality.
9 = Good overall scan quality.
10 = Excellent overall scan quality.

FILE	SCORE*	NOTES
D001R001	8	Slight skew in horizontal direction. Some lines appear broken in places. All text legible. Noisy
D001R002	10	Excellent. Little noise.
D001R003	10	Excellent.
D001R004	8	Some lines appear broken in places. All text legible. No noise. Incorrect orientation.
D001R005	8	Good lines, though some light. Good text. Incorrect orientation.
D001R006	8	Good lines and text. Little noise. Incorrect orientation.
D001R007	9	Excellent lines and text. Little noise. Incorrect orientation.
D001R008	10	Excellent.
D001R009	10	Excellent. Little noise.
D001R010	10	Excellent.
D001R011	7	Most lines continuous. Some text unclear around border. Lots of noise.
D001R012	8	Most lines continuous. Parts of border text missing. Moderate noise.
D001R013	7	Some lines appear spiky and broken in places. Some text runs together, unclear to read. Moderate noise.
D001R014	7	Some lines appear runny and disconnected. Some unclear and noisy text. Lots of noise.
D001R015	10	Excellent. Unknown orientation.
D001R016	9	Good. Some noise. Unknown orientation.
D001R017	9	Good. Some noise. Unknown orientation.

FILE	SCORE*	NOTES
D001R018	10	Excellent.
D001R019	10	Excellent. Unknown orientation.
D001R020	9	Good lines and text. Some noise.
D001R021	9	Good lines and text. Some noise.

PERCENTAGE DECREASE OF FILE SIZE
AFTER SPECKLE REMOVAL

FILE	% drop
D001R001	4
D001R002	0
D001R003	0
D001R004	0
D001R005	0
D001R006	0
D001R007	1
D001R008	0
D001R009	2
D001R010	0
D001R011	12
D001R012	10
D001R013	10
D001R014	10
D001R015	0
D001R016	0
D001R017	0
D001R018	0
D001R019	0
D001R020	3
D001R021	3

APPENDIX B

DSREDS/EDCARS/EDMICS TEST TEAM (DEETT)
CALS Laboratory Acceptance Test Plan
EDMICS

The CALS Steering Group has assigned the CTN to prepare the overall test of the technical issues associated with MIL-STD-1840A and MIL-R-28002A. Based on previously tasked work, NIST shall support product conformance testing and the Army shall support data exchange and acceptance.

A wide range of input has been solicited to draft the test plans which will evaluate CALS capabilities with respect to the developing standards.

The LAT encompass Development Level Testing outlined by the CTN Test Plan "MIL-STD-1840A Testing To Support DSREDS, EDCARS, EDMICS Compliance with CALS standards" 24 December 1990.

Through recent contacts with the Navy through DTRC and the EDMICS contractor at PRC, it is the understanding of the CTN that the CALS portion of the LAT will be conducted at the PRC facility in Reston, VA on 16 April 1991.

Predicated on the pre-test discussions (EDMICS/PM, DTRC, ATI, CTN, NIST, DLA) of 8 December 1990, the CTN Test Plan of 24 December 1990, and recent discussions with both Navy representatives (Jack Jeffers 8 April 1991) and Contractor representatives (John Pivonka 5 April 1991), the CTN proposes the following test outline. The test system shall:

1. Read the CTN Raster Test Suite into the systems.
2. Process test data as necessary.
3. Demonstrate any automated or manual QA process.
4. Annotate each image, indicating it's acceptance.
5. Convert annotated images to CALS format.
6. Convert native EDMICS (test images) to CALS format.
7. Write two copies of CALS images to media.
8. Mail one copy to the CTN for evaluation.
9. Mail the other to AUDRE, Inc. for independent evaluation.
10. Demonstrate the capability to read and write multiple-tape volumes, the CTN will provide the media and the data.

In the process of handling the data, the following issues will be addressed:

1. Is the system able to read MIL-STD-1840A tapes.
2. Can the system detect erroneous Group-4 encoding.
3. Is the systems able to generate valid Group-4 encoding.
4. Is the system able to write MIL-STD-1840A tapes.

The CTN representative will provide:

1. A MIL-STD-1840A tape containing the Raster Test Suite.
2. A two-volume MIL-STD-1840A tape set containing an altered CTN Raster Test Suite.
3. Audit the returned test tape for:

   a. MIL-STD-1840A packaging
   b. MIL-STD-1840A format issues
   c. ANSI X3.27 format issues
   d. MIL-R-28002 issues
   e. CCITT Recommendation T.6 encoding

AUDRE, Inc. will provide:

1. Audit and comment on the proposed data interchange procedures and production implementation issues.

2. Audit the returned test tape for:

   a. MIL-STD-1840A packaging
   b. MIL-STD-1840A format issues
   c. ANSI X3.27 format issues
   d. MIL-R-28002 issues (native EDMICS data)
   e. CCITT Recommendation T.6 encoding

EDMICS contractor will deliver:

1. (3) MIL-STD-1840A tapes containing:

   a. Annotated CTN Raster Test Suite and locally produced images, 1 each sizes "A" to "J".
   b. Two-volume test tape, the CTN representative will hand carry these tape back for evaluation.

2. Shipment of tape to the test facilities:

   a. Package copies of the annotated CTN Raster Test Suite tape individually, as per MIL-STD-1840A
   b. Ship one to CTNO/LLNL
      Lawrence Livermore National Laboratory
      Att. Nick Mitschkowetz
      Mail Stop L-542
      7000 East Avenue
      Livermore, CA 94550
   c. Ship one to AUDRE, Inc.
      AUDRE, Inc.
      Att: Melody DeJong
      10915 Technology Place
      San Diego, CA 92127

If required by the EDMICS System Program Office, the CTN may provide assistance during the overall system acceptance process, to the extent that CTN resources allow. Some additional testing capabilities are provided by the CTN (as referenced in the CTN Raster Test Suite) for hard-copy I/O evaluation.

APPENDIX C

EDMICS Laboratory Acceptance Test Notes
PRC Facility
Reston, VA 16 April 1991

OBSERVATIONS:

Not unlike the DSREDS solution, the EDMICS architecture is a network of Sub-systems. The CALS conversion is handled by a software utility running on a UNIX platform which is part of the EDMICS network topology. The converted data is screened on that utility and then transferred via Ethernet to the EDMICS database Host (the VAX 6000-310) for release into an optical jukebox for archival storage.

The CALS conversion is transparent to the EDMICS Host, which only deals with native EDMICS data. The performance issues in this architecture can be addressed by adding conversion platforms to the network. In the present configuration, the Ethernet band width will dictate data throughput.

Both systems require a network utility to transfer data between the Host and the conversion platform. The test systems configuration doubled the network overhead by virtu of the fact that the conversion platform did not have a 9-track tape capability. In this case, CALS tape I/O was undertaken by the EDMICS Host, requiring the network to deliver CALS files to the conversion platform and then deliver converted native files to the optical storage device. However, the flexibility of the implementation should allow EDMICS to adjust the systems configuration according to the particular throughput requirements.

The functionality provided to support CALS data conversions relied heavily on the operators ability. Many steps in the conversion process required the operator to manually enter data that the system already had available to it (image file names, file counts, dates....). Operator experience will have an impact on data viability and the throughput rate.

Preliminary indications, after completion of the contractors LAT, are that the CALS utilities being developed for the EDMICS program are commensurate with the "common digital interface" articulated by the DoD CALS program through MIL-STD-1840A and MIL-R-28002A Type I standards.

NOTES:

8:25AM
The first CTN test tape was loaded and read by the PRC VAX 6000-310 without error. This tape had been generated on the CTN VAX-system and was indicative of many CALS implementations which do not finish the last tape block to an even 2048 bytes. Although not strictly in keeping with the MIL-STD-1840A, this type of output is common, often occurring without the knowledge of the implementor.

8:27AM
The second CTN test tape had been generated on the CTN Sun test bed. It contained the standard 18 CTN Raster Test Suite Images. This tape was also read into the VAX 6000-310 directory without incident. Subsequently, it was determined that the contents of the tape had been one Declaration file and the accompanying raster image files.

8:35AM
The Declaration file and the related 18 images were moved from the VAX to a Sun 3/60 over a 10 M-bit Ethernet link.

8:40AM
The image file headers were printed to hard-copy and each file was, in turn, converted from CALS MIL-R-28002 format to a RLE format and then to the EDMICS tiled format. Conversion of the smaller files ("A" and "B" size images) were completed in less than 30 seconds. Conversion of the "D" size image took approximately 2 minutes, these middle size images are generally more common and there by indicative of a systems performance.

Larger images such as the ISO "A1", ANSI "E" and "J" took proportionally longer. The "J" size image was separated into "E" size frames. EDMICS is geared to aperture card images as opposed to roll drawings.

9:00AM
While processing D001R013 the PRC Group-4 decompressor detected an error in the file. The error was flagged as a missing End-of-Group-4 code. Apparently the algorithm was not able to detect the erroneous "vertical-left" code installed at the beginning of a scan line. The Group-4 decoding algorithm kept decoding until it hit the physical end-of-file.

9:25AM
After all the MIL-R-28002 images had been converted to EDMICS files, they were sequentially viewed on the Sun as part of the QA process. All the images except D001R013 were inspected for integrity.

The Huffman run-length test images were audited to determine that all the run lengths had been successfully decoded. This test indicated that the PRC decompression algorithm recognized all the run-length codes specified by CCITT Recommendation T.6.

10:00AM
QA had been completed. The QA process had been implemented as a rather manual operation, most aspects of QA were delegated to the operator as the primary auditing mechanism. The operator did recognize the orientation error in the "J" size image.

All temporary files created as a result of the QA/view process were cleared from the Sun system.

10:05AM
The first five Raster Test Suite images (engineering drawings size "A" to "E") were annotated with the PRC logo. This operation indicated that the images had been decompressed to the bit-map level.

Next, the operator converted each image from the EDMICS format to CALS format. Due to a typo, image D001R003 was converted twice. Apparently, the conversion and tape writing process could not reconcile the error. All subsequent image numbers would be incremented accordingly and would not correspond to their original Raster Test Suite numbers.

The only alternative to correcting the error would have been to kill the process, delete the converted files and start the EDMICS to CALS conversion process again. In the interest of expedience the decision was made to simply allow the duplication and proceed with the conversion process.

The CTN suggested that this strategy was not optimum in a production environment.

10:55AM
All the annotated CTN Raster Test Suite Images had been converted from the EDMICS tiled format back to MIL-R-28002 format. Appropriate adjustments were made in the file headers.

Five additional native EDMICS images were selected and converted to CALS format. These images were simply added to the 19 images already queued for tape writing.

11:30AM
The Declaration file had to be altered (using a system text editor) to account for the extra images added to the Raster Test Suite, before the new data could be written to a CALS tape.

The converted files were moved from the Sun environment back to the VAX 6000-310 via the Ethernet.

From the VAX, the CALS files were written onto magnetic tape, in a MIL-STD-1840A format.

11:55AM
It was noted that because of a coding anomaly (the record buffer of the Declaration file generator was not flushed between each I/O cycle), the Declaration file was in error.

The CTN suggested that the data be corrected before the conclusion of the test session. A quick software adjustment was implemented by the PRC team and the images were rewritten to tape.

Three tape copies of the modified Raster Test Suite and the native EDMICS images were cut. One copy for DTRC, one for AUDRE, Inc., and one for the CTNO/LLNL.

12:25PM
The Dual tape test was undertaken by first reading in the two volumes delivered by the CTN. Both tapes were read without error and the image (D001R005) that bridged the two tapes was converted to EDMICS format and displayed successfully.

Next, images D001R005 and D001R001 were interchanged and the data set was written back to the test tapes it had been read from.

1:00PM
Testing was concluded and PRC was instructed to send a copy of the test tapes to AUDRE, Inc. and one to CTNO/LLNL. DTRC would hand carry their copy.

EDMICS User Application Test Notes
Louisville 30 May 1991

OBSERVATIONS:

Analogous to the EDMICS LAT, the EDMICS UAT system was a distributed implementation built on an Ethernet network. The test scenario was conducted at a design workstation, networked to the EDMICS Host computer. The location of this device was more suited to accommodate a group of observers than it was to conduct production data interchanges.

Being somewhat more remote from the physical location of the available magnetic tape drives meant that additional time was spent, not only traveling between the work station and the drive, but also establishing the status of the remote tape operation.

This test pointed out the flexibility of the EDMICS architecture, being able to conduct the CALS import interchange and QA operation at any available workstation. It also indicated that application parameters for the interchange of CALS data, in a production context, had not yet been addressed and that production data interchanges might best be conducted on a platform directly connected to a magnetic tape drive.

Preliminary indications at the completion of the UAT are that the EDMICS CALS utility is commensurate with the DoD requirements as stipulated by MIL-STD-1840A and MIL-R-28002A with the sole exception of the short tape blocks written to the end of most image files. This is a commonly encountered anomaly which generally does not effect data interchanges and had been relatively simple to correct in most instances.

NOTES:

9:00AM
Fremont Tittle convened the meeting and articulated the intent of the test. Al Zielberg informed us that the system would be running in a normal production mode during the test activity.

PRC informed us that the operation of the test would be undertaken by their personnel, no EDMICS personnel had been trained at this point. Ernest Glauberson added that EDMICS personnel would only be trained on the various Application interfaces. At this juncture, only the Core system had been delivered and it was not considered practical for an operator to manipulate the system at such a primitive level. Operator training was scheduled to begin as the various application interface shells were delivered.

At this juncture, it was asserted that the CTN was there to perform a data interchange test on a live system to reaffirm the conclusions of the LAT. Additionally this test would afford the Program Management the opportunity to assess the CALS activity with respect to systems performance and the production functionality of interchanging CALS data. The EDMICS Program Office was satisfied with the arrangements and the process was started.

9:10AM
I handed out the test plan, PRC provided a script of the machine commands, and the test team moved out to the Engineering design area. EDMICS and PRC determined that the most appropriate location for the test would be a design station normally allocated to Engineering staff for viewing and editing raster image data.

9:35AM
Loaded the first CTN Raster Test Suite tape of 18 images. The system indicated that the tape was blank, an octal dump of the tape revealed that the first block of data was indeed a tape header followed by two tape marks (indicating an End-of-Tape). I could not reconcile this issue, the tape will be hand carried back to the CTN for evaluation. (Subsequent analysis indicated that the tape had inadvertently been re-initialized at the CTN, before delivery to the EDMICS test).

9:45AM
A CTN generated test tape containing 15 images was loaded and read successfully by the System. The images were transferred via ethernet to the local station and converted from CALS to the internal EDMICS format.

10:25AM
The images were viewed on the engineering station, all images appeared in tact and rendered on the CRT as expected. The data was saved in a separate directory and scheduled for reintroduction to CALS tape and shipment back to the CTN for evaluation.

10:45AM
Mounted the first of the multiple-tape volume test tapes, four and a half images were read and the systems requested the next consecutive tape to be loaded. The second tape was loaded and read into the system. These files were also moved from the system hosting the tape drive to the workstation where we were conducting the test.

The conversion of the 18 images from CALS to native EDMICS was started. This tape had a complete set of the CTN Raster Test Suite on it and would demonstrate a Follow-on Test requirement from the EDMICS LAT which would establish the source of some aberrations in the original Huffman files. It was speculated that two of these three files had erroneous data in them as a result of the pixel editor that had been used to attempt to modify them. The CTN has found in several instances, small images such as the three Huffman files are susceptible to aberration by some pixel editing utilities.

11:30AM

All files had been converted from CALS to native EDMICS format. Since the tape drive was located in another room, a difficulty in communication accounted for the rather long time taken to read and convert the 18 images spanning the two tapes.

The three Huffman images were displayed on the CRT without incident and D001R005 appeared to display correctly. In the interest of expedience only the three Huffman files and D001R005 could be viewed. Authentication of the other files on the tape will be undertaken at the CTN as part of the Loop-through Test.

All the files were moved to a directory, they are to be reintroduced to a CALS tape and sent to the CTN for evaluation purposes.

11:35AM
A CALS formatted Loop-through tape from the EDCARS LAT was loaded and read into the system. All 15 images were read in without incident.

The data was subsequently transferred to the work station vie the Ethernet and converted from CALS format to native EDMICS format.

In the interest of expedience, only the first five images were converted to Native EDMICS format.

11:50AM
All five images were displayed without incident.

12:00PM
A CALS formatted Loop-through tape from the DSREDS LAT was loaded and read into the system. All 19 images were read in without incident.

The files were transferred across the Ethernet to the work station conducting the test.

12:13PM
Converted five of the DSREDS images for reprocessing, annotation, and return to the CTN.

Note:
Since the EDMICS CALS implementation was not production oriented, pixel editing and generation of the CALS tape for CTN analysis would be conducted by Contractor personnel at their discretion. The results will be appropriately packaged and mailed to the CTNO for analysis.

APPENDIX D Acronyms and Standards

Acronyms Expanded

ANSI	American National Standards Institute
ASCII	American Standard Code for Information Interchange
AT&T	American Telephone and Telegraph
AUDRE, Inc.	Contractor
BOT	Beginning of Tape
BPI	Bits Per Inch
CALS	Computer-aided Acquisition and Logistic Support
CCITT	Comite Consultatif Internationale de Telegraphique et Telephonique (English: International Consultative Committe on Telegraphy and Telephony)
CIT	Consumable Item Transfer
CPU	Central Processing Unit
CTN	CALS Test Network
CTNO	CALS Test Network Office
DEC	Digital Equipment Corporation
DEETT	DSREDS, EDCARS, and EDMICS Test Team
DLA	Defence Logistics Agency
DoD	Department of Defence
DSREDS	Army, Digital Storage and Retrieval Engineering Data System
DTRC	David Taylor Research Center
EDCARS	Air Force, Engineering Data Computer-Assisted Retrieval System
EDMICS	Navy, Engineering Data Management Information and Control System
EOT	End of Tape
I/O	Input/Output
IBM	International Business Machines
JCMO	Joint CALS Management Office
LAN	Local Area Network
LAT	Laboratory Acceptance Test
LLNL	Lawrence Livermore National Laboratory
MB	Megabyte
NIST	National Institute of Standards and Technology
PM	Program Manager
PRC Inc.	Contractor
QA	Quality Assurance
QSTR	Quick Short Test Report
RLE	Run-Length Encoded
SOW	Statement of Work
TCP/IP	Transmission Control Protocol/Internet Protocol
TISP	Technology Information Systems Program
UAT	User Applications Test
UNIX	(A name, not an acronym -- originally printed in "all small caps")
VAX	Virtual Address Extension (DEC)
VMS	Virtual Memory System (DEC)
WESCO	Sub-Contractor

Standards Referenced

ANSI X3.27	American National Standards Institute Inc. "Magnetic tape labels and file structure for information interchange"
ASTM-D-3951	American Society for Testing and Materials "Standards for Commercial Packaging"
CCITT Recommendation T.6	International Telecommunication Union VII.3
MIL-HDBK-59A	
MIL-R-28002	Raster Graphic Representation in Binary Format
MIL-STD-1840A	Automated Interchange of Technical Information
PPP-B-636	
MIL-STD-804B	